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Original Contributions.

CHANGING THE SHAPES AND POSITION OF THE NATURAL TEETH — METHODS TO AVOID THE DISPLAY OF GOLD—ART TO CONCEAL ART.

By Robt. Eugene Payne, M.D., D.D.S., New York City. Read Before the Massachusetts Dental Society, at Boston, June 1 and 2, 1898.

Malformed, irregular, misshapen teeth, minor deformities, involving many times the facial expression, is the neglected specialty. The field is unlimited. No face is so beautiful that it could not be improved. There are but very few perfectly normal and absolutely

This shows the changes made in the natural teeth in an adult forty-two years of age.

faultless natural dental organs. Interest in these minor, but important disfigurements has led me to correct them at every opportunity. Within certain limits the natural teeth in the mouth may be sculped, so to speak, into pleasing and even beautiful shapes without the slightest injury and with benefit; indeed, it is a prophylactic measure that often arrests decay.

My first consideration when a patient presents for examination is: How can I improve the appearance of these most important and expressive features of the face, the teeth and lips? Are the teeth too long? Shorten them with fine stones, polish the surfaces, and round up the corners. Are the teeth too short? Make them longer by removing a crescent-shaped piece of gum at the enamel border. You will find by exploring with a small blunt instrument

under the margin that the gum usually overlaps the enamel when the teeth are short. ["I might state here that from my own idea this is undoubtedly a new procedure in dental practice. I supplement these remarks, because I have seen several cases before and after just such treatment in Dr. Payne's office in New York, and the change was really very wonderful." Dr. Stowell, president of society, who kindly read the paper for me.] This is particularly true of the upper anterior teeth, centrals, laterals, cuspids and bicuspids, where the effect is desired. By using a drop of 2 per cent eucain solution over each tooth you can get perfect anesthesia for the removal of this overlapping gum.

Are the teeth fan-shaped, broad, crowded? In this event use a bow-separator, reduce the exaggerated bulging surfaces. This will give the tooth a symmetrical, longer appearance so desirable. It will remove a surface that will often decay, for the very pressure caused by the crowding will soften the enamel, and this very condition is one of the causes for so many hideous gold approximal fillings in the front teeth.

If the teeth are too long, ragged, irregular or in any way do not conform to correct lines, they should be changed, straightened, the surfaces rounded and carefully polished. It is always a benefit, never detrimental to tooth structure.

Broad teeth in a crowded arch will be greatly improved in appearance by taking off a little on either side, making the tooth narrower, overcoming crowding, preventing decay between and arresting decay if present. I advocate this in every case as a prophylactic measure at any age.

Gold fillings that show in the anterior teeth, where the enamel has been cut away to gain access to a cavity, are annoying to any one of refinement. It should be condemned. There is a better way to do this, and that is to cut in from the lingual and never destroy any enamel in front. If the enamel is thin, line it with cement of proper color before filling with gold or any other material. This applies to bicuspids quite as much as to the front teeth. If the enamel is destroyed in front, so that the gold cannot be hidden, it is a deplorable disfigurement.

If the cavities are large and in the centrals or laterals, the teeth may be turned to the front by using B or C silk twist, and an enamel inlay set in. The teeth should be dry when the thread is adjusted

for turning the teeth. Throw two half hitches around the center of the centrals, or wrap the thread around the teeth twice, tie a square knot or surgeon's knot, then carry the thread back around a bicus-

Example of ideal beautiful natural teeth. It shows the square edge English type, pleasing curves and correct lines.

pid, draw it tight and always tie a surgeon's and square knot. [It is almost impossible to describe these knots without demonstration, but threads are useless without them. How to tie them can be learned from a sailor or one experienced, and a good plan is to practice with twine and pegs.] The threads can be kept away from the gum by tying to the intervening teeth. The threads become moist and shrink and will turn the teeth so that free access can be had to these cavities, and enamel fitted in or filled with gold, and the teeth turned back, so that the gold will be hid. Now if the enamel is destroyed and the gold must show, you can get the very best effect as follows (this may be old to some of you but not to all). Follow me closely: Cut the cavity at the top and bottom, cut it long and to conform to the vertical line of the tooth. After removal of all carious dentin, line the anterior wall with a carefully selected cement, so that gold will not show through the thin enamel. Build the tooth out with gold to get full restoration, then cut the gold on the labial or front to a perfectly flat surface; when this is done use strips between the teeth and cut this flat surface until it looks like a line of gold between the teeth. In speaking to a person you always look directly at them, the rays of light striking this flat surface are reflected to the eye and you do not see the filling-in shadow, as you would if the surface of the filling were oval.

["You would be surprised to know what a vast difference it makes whether the cavity and gold are oval and polished or whether cut long, as Dr. Payne has described, and a flat surface bevelled approximally so that the light is reflected to your eye from a narrow surface. You do not see the gold to any great extent. When it is oval and polished, it reflects in every direction—it forms a lens, is nearly all in shadow, and looks dark. I have noted much of this work in Dr. Payne's office, and recommend it." Stowell.]

To go back to sculping the teeth. If the upper front teeth project, or one tooth is slightly out of the arch, room can be gained by disking between the eight anterior teeth, then draw them back by means of waxed D silk twist. Begin by binding first molar and second bicuspid together, then first bicuspid. After these three are securely bound together on either side, use them to draw the others in place, and they can be moved quickly if threads are put on dry and square knots are used. When once in position they can be held there with fine O or OO silk twist until set. ["Dr. Payne uses

this method for regulating the teeth with most phenomenal results. He can really rotate a tooth anywhere he wants it. You can rotate a tooth better than you can move it laterally." Stowell.]

This shows the oval surface, round-cornered type. Symmetrical curves. It is distinctively American. Both types are worthy of being copied in correcting the shapes and irregularities of the natural teeth in the living jaws, as described in the foregoing pages.

Great care must be used in correcting deformities to remove all causes present, or obstructions, as occlusion-wedging, inclined plane, anything that will throw them out of position again. No definite rule can be laid down. Each individual case must be met according to malposition found.

If teeth are crowded out of the arch it is useless to correct them if you do not make room by spreading the arch, or by reducing the size of the teeth. If this is done, they will remain where you place them. It is the custom to enlarge the arch and not reduce the size of teeth by reducing approximal surfaces, but in small deformities room can be gained by this means; and let me repeat, caries will not occur on smooth, clean surfaces unless by a possible erosion, and this may be overcome in a degree by use of milk of magnesia aided by cleanliness.

This method of changing the shape and position of uneven, malposed and malformed teeth applies more particularly to adult irregularities between the ages of thirty and fifty that have been neglected, also those cases complicated with alveolar inflammation, where the teeth have become loose, induced in a measure by malocclusion. It is necessary only to move the teeth either forward or back in most cases, as they are fully erupted, developed and hard. It cannot be carried out so fully in immature teeth and undeveloped jaws. In some diseased conditions after these changes have been made it is necessary to splint the teeth to prevent movement and to effect a cure. The fine silk thread will accomplish the purpose by tying low on the bicuspids and high on the anterior teeth, thus binding all together, securing comfort for the patient and hastening their return to health, noticeably improved in shape and size; their even appearance adding charm to expression and feature, and aiding the accents of eloquence.

Changing the shape of the teeth may be termed *Artistic Treatment of the Natural Teeth.* Now if you add to this the removal of stains and abraded surfaces between each and every tooth, polishing the enamel interproximally, you will place the mouth in a condition of absolute cleanliness, a condition it has never yet known and one that can be maintained.

PERNICIOUS VOMITING.—Cocain hydrochlorate, gr. 1-6 hypodermically once or twice daily, immediately before feeding.—*Pozzi.*

RELATIONSHIP OF THE MEDICAL TO THE DENTAL PROFESSION.

By F. E. Wallace, M.D., Monmouth, Ill. Read Before First District Dental Society of Illinois, at Monmouth, Sept. 27-28, 1898.

The first two years' didactic course in either school is very similar and intended to cover the same ground. I presume it is the purpose to make these courses so much alike that a student who has taken two years in a dental college could get credit for this period in a medical school, and vice versa. The following requirements, as adopted by the National Association of Dental Examiners, provide that each dental school must employ a teaching faculty of at least three professors of dental subjects, namely, for operative dentistry, for dental prosthesis, and for dental pathology and therapeutics; and at least five professors of medical subjects, namely, for anatomy, physiology, chemistry, pathology and materia medica.

No doubt these requirements are carried out as provided, but the point I wish to raise is, are the branches pertaining to medical subjects taught thoroughly enough in dental schools? The ground is gone over, but the principles are too lightly dealt with. They are superficially studied and taught, and naturally just as superficially remembered.

Now how is it in the course of dental pathology in medical schools? If anything they are more slack in their requirements than dental institutions. The student is given lectures on the structure, development and growth of a tooth, but what does the average graduate know about pathological conditions present in diseases of the teeth? Fifteen hours' instruction covers the whole time spent on this course in many medical colleges, and what can a student learn of the importance of abscesses, infection of the antrum, and diseases of the throat, eyes or ears as a result of these conditions, in fifteen hours' time? He would naturally be expected to acquire his knowledge of these things while a student, but in the great majority of cases he gets his understanding at the expense of his suffering patients.

The dentist should be thoroughly acquainted with all simple remedies and treatments which he may be called upon to administer on short notice, as in cases of fainting, collapse, shock, hemorrhage, swallowing foreign bodies, etc. Specialism is gaining strength

every day, but the dentist should have a fair knowledge of medical subjects, and a physician should thoroughly understand the relation which the teeth bear to the human economy. Since these organs are so intimately connected with the nerves and blood circulation of the face and head, any affection of the teeth frequently gives rise to reflex action elsewhere, and the physician should be trained to look for the cause. While medicine and dentistry are two distinct studies the foundation principles of both are alike, and the two can never be independent of each other.

CROWNS OR FILLINGS?

By W. W. Morehead, D.D.S., Aledo, Ill. Read Before First District Dental Society of Illinois, at Monmouth, Sept. 27-28, 1898.

It seems almost impossible to bestow a gift or blessing upon man without having it neglected or abused, according as it is carried from one extreme to the other. Thus in dentistry an operation difficult to perform is very apt to be neglected unless exceedingly remunerative. For the same reason we are inclined to favor work which is easy, especially if remunerative, and many times convenient service is rendered regardless of esthetic dentistry, and the fact that we are slowly but surely losing our manipulative ability.

Every dentist knows that it was not the usefulness nor beauty of the finished work that made vulcanite and plastics popular, but the ease with which they could be manipulated and the lucrativeness of the work.

The principles of crown-work were hardly understood before we began to abuse them to such an extent that it now threatens to demoralize the integrity of the profession much more than it has been damaged by either vulcanite or plastics. The monument of the fall of operative dentistry—gold crowns on the anterior teeth—are certainly becoming more generally used, yet there is no excuse for this practice. If a front tooth is so badly broken down as to require crowning, a porcelain crown is far more artistic; and where gold crowns are used on the anterior teeth to secure anchors for bridge-work, we believe a partial plate would be far preferable.

Dr. F. T. Van Woert, of Brooklyn, recently stated that a great deal of crown and bridge-work was done simply and solely for the purpose of advertising, and that crown-work had diminished the

manipulative ability of many men who formerly used gold, but who were now forced to adopt amalgam.

No one will deny that the judicious use of crowns is a blessing to our patients, but it must not be adopted for the purpose of avoiding difficult operations, nor for the introduction of bridge-work.

DENTAL QUACKERY.

By I. P. Wilson, D.D.S., M.D., Burlington, Iowa. Read Before First District Dental Society of Illinois, at Monmouth, Sept. 27-28, 1898.

Webster tells us that a quack is one who makes vain and loud pretensions; that he is a boastful pretender to medical skill. Hence, one who boastfully pretends to knowledge not possessed; an ignorant and pretentious practitioner in any branch of knowledge; a charlatan; a mountebank. It is humiliating to have in our profession such practitioners, and to treat them as entirely beneath the attention of honorable practitioners has been thought the proper course to pursue. To personally encounter these men would be a sacrifice of self-respect that we can illy afford to make, and a more dignified course has been adopted in seeking to secure legislative enactment that will exclude unworthy and incompetent persons from practice.

This has been done not purely for selfish purposes. It is true that the profession has felt very keenly the degrading influence of empiricism, yet it is the public who are being gulled. Loud sounding words, printer's ink, promises of cheapness and freedom from pain, always have and always will delude the unthinking, and unfortunately the class of people who as a rule feel the necessity of practicing the closest economy are the victims.

Never before has quackery developed itself in high places so boldly as at the present day. I mean by this that fairly well educated men, dental college graduates, who are devoid of principle, are swindling the public, degrading the profession, and endangering human life as never before. Is this too strong? Need I call your attention to pathological conditions of the air-cavities of the cranium, to maxillary necrosis, to putrescent pulps, all pouring their death-dealing discharges into the mouth, in many cases the result of malpractice by quacks. Need I remind you of the evil and often fatal results of the nostrums employed chiefly by these men for the painless extraction of teeth. Need I mention the fact that the man who

advertises low prices publicly confesses that he uses the cheapest materials in the market and renders correspondingly poor services to his patients, for no one can afford to do conscientious work for less than a living compensation. A careless, hurried operation is a great saving of time to the dentist, but service thus given is dear to the patient at any price. I do not think that quackery is gaining headway among the ignorant class of practitioners, but there certainly is an increase among college graduates, of whom we should expect better things. Our state dental societies often receive such men into active membership and rarely ever call them to account for open violation of the code of ethics. Charlatanism is not made odious by our colleges and societies as it should be. Young men and young women should be given ethical instruction by our college professors from the time they commence the study of dentistry until they graduate, and above all the college authorities should set a good example. A college which advertises its infirmary in the newspapers cannot expect to engender a very high sense of ethics in its students.

Dental legislation has not accomplished very much towards the suppression of quackery. It is true that the door of admission to practice has been closed against an ignorant class of men who were unable to pass the examination of the state board, yet a more shameless class of graduates from our dental colleges is growing larger day by day. I am inclined to think that the main cause of the increase of unprofessional conduct among college graduates is the overcrowded condition of our profession. The field is already occupied, and it will be impossible for at least one-third of the young men graduating each year to secure a living practice. They become desperate and drift into charlatanism as a last resort, thereby bringing disgrace upon themselves and dishonor to the profession of their choice. These educated men cannot be excused on the grounds of ignorance, for Webster's definition presupposes that none but an ignorant, boastful person can be a quack. But a man who has had a professional education, and then adopts unprofessional methods, is more to be detested than the ignorant bombast who has been taught nothing in regard to professional honor.

The remedy for this growing evil lies almost entirely with the colleges, and I would suggest that they be much more careful in receiving students, for they should know what kind of material

they are to work upon before allowing a young man to matriculate. The question should not be how large a class can be secured, but what is the character of the students that are being admitted. Ignorance is a formidable foe. A man with a dental diploma who does not possess a good common school education is a dangerous person to be admitted to practice. Such a dentist will rarely take any interest in our dental societies, except it be for purely selfish purposes. Dental literature, so abundantly supplied through our journals, will not be relished by him because he cannot comprehend its meaning. His mind has not been sufficiently disciplined to appreciate scientific investigation. My convictions are that we can no more stop quackery by legislation than we can put an end to murder and crime of any kind by the laws we place upon our statute books. Our dental colleges are the portals to our profession, through which no unworthy applicant should be allowed to pass, for if foundation work has been neglected up to this time there is but little upon which to build a professional character. Far better that we should spend our time in sifting the tares from the wheat while it is in our power to do so.

CARIES OF THE MAXILLARY BONES RESULTING FROM INFECTION THROUGH PULP-CANALS OF TEETH.

By Thomas L. Gilmer, M.D., D.D.S., Chicago. Read Before First District Dental Society of Illinois, at Monmouth, Sept. 27-28, 1898.

Young practitioners of dentistry do not seemingly have a clear conception of the difference between caries of bone and necrosis of bone. It is hardly necessary for me to give a definition of the two conditions, but for the completeness of this paper I will do so. In the death of a mass of soft tissues at one time we have what is known as gangrene. In the death of a mass of bone we have what is known as necrosis; the former name being applied to the soft parts, the latter to the hard tissues. Necrosis is quite as good a name for death of the soft tissues as is gangrene, since both in pathology mean death of a part in mass. Why the different names I am unable to explain.

Caries of bone has its counterpart in the soft tissues too, and is as different from necrosis as is ulceration of the soft parts from gangrene. In other words, caries of bone is an ulcerative process. The tissues in necrosis are destroyed in mass; in caries they are

destroyed cell by cell. Caries of bone may be a cause of necrosis of bone. If the ulcerative process of caries cuts off a certain area of tissue from nutrition, necrosis must result; indeed, in almost all cases of caries of bone, especially if very extensive, there will be found necrosed pieces of bone intervening.

Caries of bone is a gradual wasting of the tissues by the death of the cells of the part and solution of the lime salts. It is generally a slow process, a chronic condition. There may at times be a rapid destruction of bone, which possibly can be denominated caries, such as is found immediately following an acute alveolar abscess; but the death of bone usually following sthenic or active inflammation is much more likely to be what is denominated necrosis than caries. Acute inflammation is more likely to cause a stoppage of the blood and lymph channels and cause necrosis than it is to cause caries.

Caries is the result of a weakened condition of the cellular elements of a part, which weakness may be increased sufficiently to cause the death of the cells by a further lowered condition of the body, or by some infection which is continuously being brought into contact with the cells. By far the more common immediate cause of caries of the maxillary bones is infectious material passing through the apical foramen from the canals of roots of teeth whose pulps have died or have been destroyed. The infection may at first cause an active inflammation of the peridental membrane and the adjacent tissue. This subsides and a chronic condition in a circumscribed area at first may follow. After this, unless the root or roots be disinfected and perfectly filled, there is present more or less constantly infection in the root-canal, which is communicated to the tissues at the apical end of the root. If the general health is good, the repair of the tissue may about or quite equal the destruction by germ life; but if the general physical equilibrium becomes unbalanced, then the waste becomes more rapid than the repair, and the consequence is destruction of the cellular elements in the bone as well as in the soft parts contiguous. This progresses most rapidly in the more cancellous parts of the bone, and in all directions from the center of infection. Even after the thorough disinfection of the root or roots causing the condition there may be no cessation or retardation of the process, as the surrounding dead and infected bone may have all the necessary elements present for the spreading and continuation of the disease. Indeed, there have been cases in which

it has progressed until the whole of the superior maxillary bone has been destroyed, the patient having but slight knowledge of the progress or presence of the disease, other than by a greater or less loosening of the teeth and a discharge through sinuses in the gum, the latter causing it to be mistaken for alveolar abscess.

Caries differs from necrosis in that the discharge is far less in quantity and is rarely fetid, while in necrosis the odor is generally offensive. The gum covering necrosed bone is usually of a darker color and the soft tissues are more or less swollen and indurated. The gum over carious bone is more natural in color, and often there are rings of light-colored granulation tissue about the sinuses. From pockets caused by caries about the apices of roots of teeth there may be a flow of a ropy, thick, mucoid-appearing fluid. This may flow through the root-canal, as has often been observed in the treatment of pulpless teeth. It not infrequently happens that there is no outlet from a carious pocket, and caries is not suspected until this viscid fluid is discovered on opening through the apex of a root. This fluid is positive evidence of either caries or a cystic formation, or both, and a broach may be passed quite a distance beyond the apex into the cavity or pocket caused by ulceration, caries, or the absorption of the bone by the cyst.

Diabetes, tuberculosis, syphilis, typhoid fever and some other diseases are of themselves causes of caries of bone, or perhaps, to be more accurate, I should say that these diseases lower the vitality to such a degree that traumatic or septic influences are readily followed by caries. Under such conditions the phagocytes are easily overcome, and the influence exerted by pathogenic organisms overcomes the vitality of the cells and they die, and the condition progresses rapidly or slowly in proportion as the vitality is low or otherwise. Even after the root of a tooth has been rendered aseptic and properly filled the condition may still remain and more bone be destroyed, because as before said, in carious bone there are all of the elements (microorganism, food and moisture) for an indefinite continuation of the disease. Besides, it not infrequently happens that the side or apex of the root has been partially absorbed, leaving rough and uneven edges which may cause irritation, and this may be sufficient for a continuation of the condition.

Necrosis more frequently attacks the lower jaw, while caries is generally found in the upper, and it is discovered in the anterior

portion of the upper jaw far more frequently than in the posterior. Indeed, my experience leads me to conclude that caries rarely primarily attacks the posterior portion of the upper jaw. It often extends back to this portion, but generally originates between the roots of the cuspid eminence and the median line. The palate bones resist even when the whole of the alveolar process and a large part of the upper maxillary bones are destroyed. Caries of the maxillary bones is much slower in its progress than necrosis, and usually less destructive and far less painful; indeed, caries rarely gives inconvenience until it has made deep inroads. In probing necrosed bone it is found hard and unyielding, while carious bone is soft and fragile, being easily penetrated by a sharp instrument.

The treatment of necrosis and caries of bone differs widely in the main. Naturally both demand antiseptic treatment, but other than this the local treatment is wholly different. In necrosis the treatment is antiseptic and expectant, while in caries it is antiseptic and surgical.

Surgical interference, if the disease is extensive and progressive, is demanded at once. In necrosis we allow nature to show the line of demarkation; in caries we cut, bur and scrape away all the dead and dying tissue and thoroughly irrigate the parts with antiseptics, and if necessary stimulate them to healthy and vigorous action. Aromatic sulphuric acid is well adapted for this purpose; furthermore, it is antiseptic, and is thought by some to be beneficial as a dissolvent of the dead bone, but I do not value it for this purpose. It may be used in 50 per cent solution or full strength, as indicated by the conditions.

Many so-called incurable alveolar abscesses are incurable because there is caries about the end of the root of the tooth causing it, which cannot or has not been removed, and is too extensive for cure by antiseptic treatment through the roots of the teeth alone. Frequently if caries is about the buccal roots of the bicuspids or molars, or about the roots of the six anterior teeth, the disease may be cured by opening the outer plate of the process and curetting or burring away all the dead and dying bone, then thoroughly treating antiseptically. If destruction of bone has been extensive, the pocket should be packed for a time with iodoform or antiseptic gauze.

If a root be found roughened from absorption or the deposit of concretions, it should be smoothed or the concretion, if present,

removed. If the root is badly absorbed and thereby roughened, it may be best to amputate its end. This is best done by drilling a hole through the root with a spear-shaped drill and into this is inserted a cross-cut fissure bur. First cut toward the mesial, then toward distal side of the root, when the apex is removed through the opening previously made into the process for the purpose of reaching it. The end of the root is then nicely rounded and the opening cleared of debris by irrigating with an antiseptic.

If caries includes a large part of the jaw, every particle of the diseased bone should be as carefully removed as in the less extensive cases. Healthy bone cuts hard and resists the bur, while carious bone cuts easily. Healthy bone is white and bleeds when cut, so it is not difficult to determine when all of the dead tissue is removed and the live reached. If the patient be diabetic, then diabetic medication and regimen should be administered. This is equally true in its application to the other disorders which were indicated as being causes or abettors of the disease. Remove the cause, treat antiseptically, stimulate the parts if desirable, support the patient if necessary by tonics and meet other indications as they are presented.

While it is no part of my subject, I have incidentally referred to cystic formations in the jaw. Give thorough removal of the cyst walls, followed by stimulating and artificial irrigation; indeed, the treatment is very similar to that of caries.

CARBOLIC ACID POISONING.—Toxic effects have occasionally resulted from the use of carbolic acid as an antiseptic. At a recent meeting of the Societe Medicale des Hopitaux, reported in *The Lancet*, Dr. J. Comby related the following case: A child, aged five years, was treated for otorrhea with carbolic acid. Injections of one and one-half per cent were employed six times a day. After the last injection in the evening five drops of glycerid of carbolic acid (five per cent) were instilled, and in addition the ear was bathed with the first solution. This treatment was scrupulously carried out for ten days, when the otorrhea stopped; but two days afterward the child had persistent hæmaturia and headache. Careful physical examination revealed no other signs of disease and the general condition was satisfactory. Symptoms of acute nephritis, pyrexia, œdema, etc., were absent; there was no evidence of tuberculosis and the microscope showed that the case was not one of hæmoglobinuria. Dr. Comby therefore concluded that the hæmaturia was due to poisoning by carbolic acid, which had been so sedulously used. The hæmaturia ceased in about a fortnight. Carbolic acid should be carefully used in the case of children, as they are especially susceptible to it.

Digests.

DIAGNOSTIC VALUE OF KOPLIK'S SPOTS. Further evidence of the assistance that dentists can often render to their patients and the public generally by early recognition of the existence of non-dental diseases, from evidences furnished by phenomena in the oral cavity may be drawn from Dr. Sobel's contribution to the *New York Medical Journal.* He confirms the claims of Koplik's spots as a pathognomonic sign both in the preeruptive and eruptive stage of measles. As stated in the *Lancet* of April 30, 1898, these spots are limited to the mucous membrane of the cheeks and lips and are small, irregular, and bright red. In the center of each is a minute speck, bluish-white in strong daylight, which according to Koplik is absolutely pathognomonic of measles. In the early stages of thirty-five cases of measles Dr. Sobel never found this sign wanting. On the other hand, he never found them present in one thousand adults suffering from a number of affections nor in children affected with various eruptions—varicella, scarlet fever, vaccinia, rötheln, congenital syphilis, urticaria, purpura, erythema multiforme, miliaria, eczema and bromid and antipyrin rashes. He corroborates Slawyk's observation that the spots occur most frequently opposite the region of the lower molar teeth.

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UNLAWFUL PRACTICE. By the Nebraska statute any person not possessing the prescribed qualifications for the practice of medicine, surgery or obstetrics, or any person who has not complied with the provisions of the law relating thereto, who shall engage in the practice of medicine, surgery or obstetrics, or any of the branches thereof, shall be deemed guilty of a misdemeanor, etc. Any person shall be regarded as practicing medicine within the meaning of this statute who shall operate or profess to heal or prescribe for or otherwise treat any physical or mental ailment of another. But nothing therein is to be construed to prohibit gratuitous services in cases of emergency, or to apply to commissioned surgeons in the United States army and navy, or to nurses in their legitimate occupations, or to the administration of ordinary household remedies. Now, under this statute, the supreme court of Nebraska holds, in State vs. Paul, Oct. 20, 1898, any person within the exceptions prescribed,

and not having complied with the requirements as to certificate and registration, who shall, for a remuneration, operate on, profess to heal, or prescribe for, or otherwise treat any physical or mental ailment of another, is liable to the penalties prescribed, although the operations were performed, and the medicines were administered and given, under the direction and charge of a licensed physician and surgeon. To make one liable to the penalties of the statute, the court further insists, it is not essential that at or before the treatment of the sick, here presented, claimed or advertised himself to be a regular, legal or competent practitioner of medicine.

* * *

REVOCATION OF CERTIFICATES. The Iowa statute designed to regulate the practice of medicine and surgery in that state provides for the issuing by the State Board of Medical Examiners of certificates, and authorizes the board to revoke a certificate whose holder shall have been convicted of a felony committed in the practice of his profession or in connection therewith, or "for palpable evidence of incompetency." The statute does not prescribe the practice to be followed in cases instituted for the revocation of certificates. It may, when practicable, says the supreme court of Iowa, commenting on this in Traer vs. State Board of Medical Examiners, Oct. 24, 1898, follow somewhat the methods of the courts, yet, from the nature of the board and the character of the duties it is required to perform, a more flexible practice than that allowable in the court must, of necessity, be followed in many cases. The people whose right it is to hold a certificate which has been issued to him should be given a fair opportunity to meet the charges and evidence against him. What would be "palpable evidence of incompetency," within the meaning of the statute, the supreme court further says, is not easy to define, although it must be sufficient to make plain and obvious the incompetency of the accused to practice as a physician and surgeon. In the absence of objection, it is of the opinion that evidence which tends to prove or disprove the competency of the accused may be considered, as affidavits, etc., even though it is not the best evidence which could be produced for that purpose. The provision of the statute which gives to the president or any member of the board authority to administer oaths and take testimony in matters relating to their duties as examiners, if it applies to the revocation of certificates, the court also holds, is not exclusive, and

does not prevent the consideration by the board of evidence not so taken. Finally, the court declares it within the jurisdiction of the board to determine the competency and sufficiency of the evidence submitted to it, and if it errs in admitting evidence or in giving to it undue weight, the error cannot be corrected by certiorari proceedings.

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PHARMACOGNOSIS. By J. W. Loppenthein, D.D.S., Ph.G., Ludington, Mich. If there is one study that has been neglected more than another it is pharmacognosy, or the science of drugs and preparations. Our medical and dental colleges have been adding one study after another, but that of pharmacognosy has not ventured beyond the threshold of the leading schools in pharmacy. It is surprising what may be gained by a comprehensive knowledge of pharmacognosy, and still more surprising to think that even up to this late day no steps have been taken to introduce this much needed study in our medical and dental schools. The students of to-day are no better equipped in pharmacognosy than they were a half century ago, while in other branches they have every opportunity and advantage

Ask your druggist his experience and you will find that physicians and dentists may possess a fair knowledge of materia medica, therapeutics, toxicology and posology, and still not be able to distinguish tr. iron from tr. iodin, or borax from alum, simply because they have not had an opportunity to acquaint themselves with the drugs they prescribe day after day. Prof. William E. Quinn's definition of materia medica means all that is known about a drug, and he certainly covers all the ground in those few words. It is not because we do not know what is included in the term materia medica that our medical and dental graduates know no more about the subject, but simply because it has not been taught. A thorough knowledge of the drugs in common use would widen the channel in this particular line; it would teach us to recognize drugs, to determine their quality, to detect their adulteration, and to distinguish the characteristic elements of those which are closely allied. Organic drugs which resemble each other in physical and structural properties should be brought together and the special properties of each made the more prominent by comparison. By having the course in materia medica and pharmacognosy linked together, as they should be, it could be made a very interesting study. As it is,

the student listens to lectures and knows no more about drugs and preparations when he graduates than should be expected from a freshman.—*Ohio Dental Journal, Dec. 1898.*

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MEXICAN INDIANS' DENTISTRY. Among other articles discovered in one of the tombs of Mitla is an upper left bicuspid tooth, with a circular incrustation of pyrites of iron in front. It is no new fact that some of the aboriginal peoples of Mexico wore ornaments or incrustations in their teeth. An incisor was taken from a tomb at Palenque and in the middle a green stone is set. Sometimes the incrustations were of gold, and the incrustations of iron pyrites, when they were new and the sulphur in them was fresh, undoubtedly shone like gold. There is reason to suppose that only the eight upper front teeth were incrusted, at any rate as a rule, for a second bicuspid taken from the Mitla tomb is without any such incrustation. On the other hand a cuspid has the incrustation, and also affords evidence that these adornments were made during life and not after death. The present condition of the tooth shows that the incrustation had reached the pulp-cavity and destroyed the life of the tooth, showing life in the subject. The object and significance of these incrustations are a matter of conjecture. They may have been affected by all who could afford them, or may have been a distinctive mark of some rank or caste. It is evident that they must have caused suffering to those who used them, and it is therefore to be inferred that the fashion or custom which prescribed them must have had a strong social or religious sanction.

Another custom revealed by the teeth found in these prehistoric tombs is that of notching the teeth so as to form dovetailing indentations. Each contiguous pair of upper front teeth were notched for a certain distance upward and sideways, so as to bear a resemblance to battlements turned upside down. The lower teeth were alternately cut off and left of their natural size, so as to fit in with the notches above. In other words, a lower tooth situated below a cavity above was left of its natural size, and the adjoining tooth was cut off for some distance. Of course the upper and lower teeth thus treated would not meet at once, but in course of time the notched teeth of these prehistoric Indians fitted into one another exactly and must have given them a peculiarly firm grip upon anything they got between their teeth.

One tooth is colored red, which must have resulted from being dipped in mercury. This was naturally a post-mortem operation. The cavity in the tooth in which the incrustation of iron pyrites is inserted (it is loose now and easily comes out) is perfectly circular and symmetrical. It argues good instruments and skillful workmanship. The instruments used were of tempered copper, the art of producing which has been lost.

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TRANSPLANTING—RESETTING. By Dr. A. J. Volck, Baltimore. I have read with much relish the various reports lately published in the dental journals on the subject of transplanting, resetting, budding and root-pruning of natural teeth, and of the marvelous and invariably satisfactory results attained. How any one can doubt that teeth can be transplanted, just like young beets or turnips, and be better and more flourishing than ever, is a marvel to me. That anybody interested in the character of the professsion should look grave when reading the accounts of the root-pruning indulged in on such occasions, and the perfectly satisfactory results attained thereby, only proves how much our profession has yet to learn. The smile I perceived on the countenance of one of our most eminent practitioners, while reading the accounts of the planting of a tooth which had lain dry and dead for weeks in the drawer of a celebrated doctor of dentistry, as related in one of the late numbers of your journals, filled my heart with pity, and I resolved to add my testimony as to the perfect feasibility of such operations.

The fact is, the enterprise of operators who have experimented on this line of dental practice has stopped far short of what can be done. I have on many occasions inserted into the bleeding cavities, left by the extraction of teeth, cow's, sheep's or pig's teeth, with perfectly satisfactory results, and my practice has been for many years to keep on hand, for the use of patients with small means, a graduated lot of ivory pegs, shaped like teeth, which can be planted quite successfully. These pegs can be trimmed to match before the teeth which they are to replace are extracted, and can be run into their place at once—the shape of the root being of no consequence whatever. In cases where nature has made a mistake in that harmony which ought to assist in the different parts of the head forming expression, these mistakes can easily be corrected, so far as the teeth are concerned, by giving the pegs such shape and inclination as will produce the

desired effect. A bill will be presented at the next session of congress, in which I propose, for a reasonable remuneration, to plant ferocious-looking fangs into the mouths of the United States troops. These will produce such a fearful expression as to strike terror into the hearts of the painted savages, and will greatly shorten our Indian wars. After the war these fangs may be extracted and deposited at the arsenals for use in the next war, while the peaceful soldier can be planted with meek-looking sheep's, cow's, pig's, calve's or goat's teeth, or with pegs of ivory, walrus or hickory, as he may choose, all of which will grow tight at once, and will be infinitely better than their original predecessors. I append two photographs illustrating this process.—*Johnston's Miscellany, 1875.*

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VARIATIONS IN NUMBER OF ROOTS IN HUMAN TEETH. By Edwin Collins. At the conclusion of my last article I pointed out that the question suggested itself: If a lower molar on one side has additional roots, will the corresponding lower molar on the other side necessarily also have additional roots, so that in this respect a certain symmetry would be shown among these irregularities? This question can of course be decisively answered only when the two corresponding lower molars are extracted at one sitting and compared with each other in reference to their root formation. Now it generally happens that when, say, the right lower first molar has to be removed on account of advanced caries, the left lower first molar is in pretty much the same condition, and consequently its removal is also necessary. Professor Busch had in 1896 already collected the teeth extracted in twelve such cases, where the first lower molars on both sides had had to be extracted, and where he had taken care to make an immediate comparison. He found in eight of these cases both lower molars with three roots each, and moreover that the roots were perfectly symmetrical; while in four cases the one molar was triradical and the other biradical. With regard to the second molar, he observed a case in which the one was triradical and the other biradical. Of the third molar, he had a case where both were triradical, and finally a case of the first upper molars, in which one had three and the other four roots. Professor Busch considered that from these cases the following inference might be drawn: That if one lower molar had a third root, there was a probability that in about two-thirds of the cases the corresponding molar on the

other side would likewise have three roots, but that this relation was by no means a necessary one, since in one-third of the cases there was a departure from it. At any rate this formation cannot be regarded as merely accidental or coincidental, since it was repeated in the corresponding place in two-thirds of the cases.

The next question that presents itself is this—How are we to regard this supernumerary root formation? Is it merely what one might call an accidental deviation from normal formation, a *lusus naturæ*, as one would have said in former times, or has it a deeper significance in regard to the development of the individual or of the whole race to which that individual belongs? One might be inclined to think that this supernumerary root formation was the first beginning of the coming into existence of an additional rudimentary tooth which had the tendency to separate itself from the normal tooth rudiment and to play an independent *rôle* as a separate tooth. There are, however, weighty considerations that tell against this view. Just in the case of the upper incisors, in which the formation of separate supernumerary teeth is by far the most frequent, is the division of the root exceedingly rare, and even when it occurs, there is generally only just an indication of division. Also among the lower incisors the appearance of supernumerary teeth is not so very uncommon, but the root division is exceedingly rare. In the case of the cuspids there are never any supernumerary teeth, whereas root division is not uncommon, at least, as regards the lower cuspids. In the case of the upper and lower bicuspids, supernumerary teeth are of tolerably rare occurrence, while on the contrary root division, at any rate so far as the upper bicuspids are concerned, is far from being rare. With the upper and lower molars, however, it is no rare occurrence for small additional teeth to separate themselves and to be placed either on the lingual or the buccal side, or between the first and second, or the second and third molars, and the additional roots might certainly be the first preliminary stage of the formation of these small supernumerary teeth.—*The Dentist, Dec. 1898.*

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TREATMENT OF SENSITIVE DENTIN. By Dr. B. F. Arrington, Goldsboro, N. C. Possibly one of the most reliable remedies ever used to deaden sensitiveness of dentin was one of the first introduced in practice more than forty years ago, chlorid of zinc. It seldom failed to prove effective, but in its action was some-

what like most of the local anesthetics of the present day, recommended for the painless extraction of teeth—the application of the remedy in most cases was more acutely painful than the operation, consequently it passed out of general use.

Nitrate of Silver an Obtundent. I have experimented with many remedies and tested carefully for favorable results or unfavorable, and now with an experience of more than forty years, nitrate of silver, in my judgment, has claim to superiority. When rightly applied it is more reliable than any single remedy or all others combined. It so perfectly controls sensitiveness of dentin that the operation of excavating can in a large percentage of cases be performed with comparative freedom from discomfort. The application of nitrate of silver is simple and easy, requiring but little time and is painless. One excellent property of the remedy is its decay-checking and tooth-preserving power when judiciously applied. It will check the progress of superficial caries or caries far advanced. I know of conspicuous cases of its effectiveness for periods of ten or more years. The mode of application has much to do with its effectiveness. Finely crushed or scraped is the best form for use.

Some dentists object to the use of nitrate of silver because of discoloration, which we readily admit is an objectionable feature, but when advantages and disadvantages are rightly estimated this feature is no serious matter and will not justify rejection of the remedy. A more general use of nitrate of silver in dental practice would, I believe, prove a professional step forward.

Cold Water an Obtundent. In milder cases of sensitive dentin, calling for treatment less powerful in effect than nitrate of silver, I have found the flooding of cavities with a stream of cold water forced from a bulb syringe during the operation of excavating very effective. It is unquestionably the best mild method I have ever tried. The colder the water, in reason, the better for hasty results. The first application of a cold stream of water into some cavities of decay will produce a perceptible shock, and in a majority of cases will be repulsed, but persistent application of the water for a few moments will prove very perceptibly soothing in effect, and the operation of excavating (preferably with spoon-shaped excavators) can be freely and forcibly indulged without expression of complaint from patient.

This is not a fancied theory, but a reality in practice based upon

indisputable results. Any dentist can soon be convinced by experimenting with two corresponding cavities in the same mouth. Try one dry with heat applied, the other flooded with cold water; the result will be definitely convincing, and the patient will express grateful appreciation of the flooding process. I question if there ever was a greater error or more unreasonable method in practice than drying and applying heat to cavities preparatory to excavating. Systematic experimenting will soon convince any one that the drying and heating process will increase rather than diminish sensitiveness of tooth structure.—*Items of Interest, Nov. 1898.*

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SUGGESTIONS ON THE DIETETIC TREATMENT OF GOUT. Read at Forty-ninth Annual Meeting of American Medical Association, June 7–10, 1898, by Daniel R. Brower, A.M., M.D., LL.D., Chicago. The great Fothergill and Garrod taught us that uric acid was the causative factor in gout; that it was formed by the metabolism of nitrogenous waste; that it represents a lower degree of oxidation than urea; that uric acid and its salts, being insoluble, are much less easily eliminated, and hence they accumulate in the system; that it is in the liver the splitting up of peptones into glycogen and waste, azotized substance takes place, and its insufficiency causes the diminished oxidation that produces uric acid instead of urea. Haig, in his masterly treatise on uric acid, accepts this theory. This tracing of gout to an excess of nitrogenous ingesta results in the exclusion of this important group of alimentary principles from this class of patients.

This origin of uric acid as the exclusive one cannot be maintained to-day, for we know that much if not all of this product comes from the oxidation of the nuclein of the blood corpuscles, and that uric acid is not the sole etiologic factor, but that the uric acid group of leukomains is of great importance. The defects of metabolism which produce the phenomena of gout are neurotic in origin and gout is a neurosis. Not only do we find excessive formation of the uric acid group, but a deficient alkalinity of the blood, and this means diminished solvent power and the precipitation of the compounds in the tissues. With the annihilation of the old theory of the origin of uric acid and the etiology of gout, a review of the principles of diet in the disease has become necessary.

It is true of gout, as of every other disease, that the diet must be

made to suit the patient. The old adage, "one man's meat is another's poison," is emphatically true here, so that while the diet of Haig may suit some cases, yet the very opposite, or a diet exclusively of animal food, after the "Salisbury" method, for example, is the best for other cases.

The object of this paper is to insist upon a much more liberal allowance of the albuminoids than the dietaries of Haig, Garrod or Fothergill and their followers permit. The functional activity of the body is largely dependent upon the albuminates, which are necessary to the formation and repair of the tissues and fluids of the body; they regulate the absorption and utilization of oxygen, and contribute to the production of muscular and nervous force and heat, and hence must be of great importance to these patients. Lower the nervous tone and you but add to the danger. The source from which the body can most easily obtain the albuminoid matter is animal food. The amount of this food that should be permitted will usually be less than that used by the normal individual, and yet the extent to which such a reduction can be carried with impunity will depend upon the digestive peculiarities of the individual. The man of sedentary habits requires less than the man leading an active life. An exclusively vegetable diet should be advised only in the exceptional cases.

The consumption of food of all kinds should be minimized. Ben Franklin's rule of always rising from the table with an appetite is the rule for the gouty. They should consume only enough to nourish the body and maintain its functional activity. Unfortunately for many of them, they pass into middle life with the vigorous appetite of early life and, unrestrained, lay the foundation for obesity, always a calamity for these unfortunates. Sugar, starchy and fatty foods should be taken in moderation, because they interfere with complete metabolism of the albuminates. This is especially true of sugar; it is as detrimental to the gouty as it is to the diabetic, and for it saccharin can well be substituted, because it not only satisfies the craving for sweets, but also acts as an antiseptic and diuretic, thereby diminishing the danger of autointoxication and promoting elimination. The starchy foods, readily converted in the body into sugar, are as objectionable as sugar, and giving rise as they so frequently do to defective intestinal indigestion and resulting autointoxication, will lay the foundation for acute seiz-

ures. Fatty foods are of benefit to some because they satisfy the appetite, and thereby diminish the total quantity of food eaten, but, as is well known, we must remember that under the influence of fat tissue waste is diminished and less oxygen is taken into the system. This capacity to diminish albuminous metabolism may be very well for the lean, who can digest them, but bad for those who are inclined to corpulency. Eggs should be taken in moderation; there are some in whom they will produce, in small quantities, toxic symptoms. The large amount of fat they contain places them in the above category. Cheese is to be avoided, as the most concentrated of the albuminates, and because of the lactic and fatty acids it contains. Tomatoes, asparagus, rhubarb and strawberries, tending to produce an excess of oxalates, are to be avoided. In short, the great principles to be considered are: 1, abstemiousness in all things; 2, non-restriction of the animal albuminates which are so essential to the nutrition of the body and so comparatively easy of digestion; 3, withdrawing from the dietary the saccharin, starchy and fatty foods that check metabolism and diminish oxidation.

Among beverages we must always remember milk first; it is a very desirable food. The water used should be as free as possible from mineral matter, distilled water being the ideal. There is advantage in taking it hot a half-hour before meals and at bedtime. The question of the use of alcoholic beverages is important and often difficult to decide. There are many gouty persons who should become total abstainers, and there are others who will be greatly benefited by the moderate use of alcohols. Beer, porter, stout, the sweet and sherry wines, such as champagnes, ports, sherries, Madeira and Burgundy, should be avoided. Moselle, light hock, the light Hungarian wines and claret, especially diluted with an alkaline table water, are permissible. For many whisky, brandy, Scotch whisky, or a gin, well diluted with an alkaline water, is the best form of alcohol.—*Jour. Am. Med. Assn., Dec. 1898.*

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BACTERIAL FACTOR IN PHAGEDENIC PERICEMENTITIS. In the August number of this journal the writer presented, in a paper entitled "Abscess upon Teeth with Living Pulps," some considerations tending to throw light upon the disorder in question, and especially as explaining its etiology. Certain points were emphasized: First, the necessity of a specific irritant; second, a pre-

disposing cause; third, the nature of the tissue which was the seat of the disorder; fourth, the analogy of the particular disorder in question with arthritic disorders in general; fifth, the pathological identity of pericemental abscess with one of the forms of so-called pyorrhea alveolaris.

As to the specific irritant, it was contended that the toxins produced in the human organism by imperfect or altered metabolism played an important *role*, both as specific irritant and as a sufficient predisposing cause. As to the nature of the tissue in which the disorder found expression, particular attention was directed to the lymph-glands of Black as the seat of the inflammatory process, and the suggestion was made that they might probably be imperfectly developed synovial structures—the anatomical character of the dento-alveolar articulation being cited, among other things, in favor of that view.

The fourth contention, as to the analogy of this disease with other forms of arthritis, was supported by their pathological similarity and the almost uniform co-existence of the disease with other arthritic manifestations. The fifth contention, as to the pathological identity of pericemental abscess, was maintained upon the ground that the only difference in the two disorders was the accident of location, which determined the direction and position of exit of the abscess contents.

More recent study of the problem has developed the belief that the lymphoid cells, found and described by Black in the glandular structures which he discovered in the pericemental membrane, were, in all likelihood, inflammatory products, especially as he reports that in the tissues which he had under investigation the glands "were the seat of phagedenic pericementitis." With regard to the modus of infection of these glands, the following statement was made in the paper on "Pericemental Abscess:"

When we endeavor to explain the etiology of abscess of the pericementum of vital teeth as a result of infection by bacteria, the relation of cause and effect is less obvious because the possibility of access of bacteria or their ptomaines via the pulp-canal is eliminated as a factor, and the modus of the infection must be sought elsewhere. There being no break in the continuity of the gingival attachment in the cases under consideration, we naturally consider the vascular circulation of the tissue as the most probable means of entrance for the irritant, which is the exciter of the inflammation in

question. That pathogenic bacteria may exist in the blood-stream and, meeting a *locus minoris resistentia* in a tissue, may set up an inflammatory process at that point, is a well-established pathological fact, and it is not at all impossible that the immediate cause of pericemental abscess may be accounted for in that way.

The foregoing view, however, needs qualification in the light of subsequent investigation, for although Black was unable to fully demonstrate the existence of a duct opening upon the surface, it is highly probable that a duct or channel leading from the gland to the surface or close to the surface of the gingival margin exists; probable, for the reason that the presence of a gland in a tissue implies work being done by the gland, and the function of a gland of the type described by Black would necessarily be the secretion of fluid, which, if continued, would have to find an exit. So the existence of a duct terminating upon the surface would afford easy access to infective bacteria, which could readily become the exciters of the necrotic inflammatory process in a tissue vitally depressed.

A recent publication ("Preliminary Review on Progressive Infective Ulceration of the Periodontium or Alveolar Dental Membrane") by Mr. Dencer Whittles, of Birmingham, England, has such an important bearing upon the question at issue that we reproduce it here in full:

Much has already been written upon this vexed condition under various titles, perhaps the more familiar one being that of pyorrhea alveolaris or Riggs' disease. Unfortunately the term has been applied to any condition in which there has been an escape of pus from around the roots of teeth. This is most confusing, as I believe the originator of the title intended it to be used only where there was wasting of the alveolar walls going on and subsequent loss of the tooth or teeth, by its bone of attachment atrophying on account of the periodontium (or periodontal membrane) being destroyed.

It is unnecessary for me to give a lengthy description of the local appearances of the disease and its effects upon the immediate surrounding muco-periosteal tissue, except to call attention to the peculiar characters of the edema, this being somewhat coriaceous and resilient to touch; its bluish-purple color, denoting a considerable amount of venous congestion, and nearest to the periphery of the tooth-socket; complete thrombosis of the vessels produced by the proliferation and disintegration of the tissues, consequent upon the infection.

The character of the pus is peculiar, being very greasy in comparison to that found in an acute abscess, the result of the ordinary pyogenic bacteria. Is this greasiness and its difficult separation of

the granules with water prior to mounting cover-glass specimens for microscopical examination due to fatty degeneration? or it might be due, in my opinion, to the disintegration of tissue in which the lymphatics are largely concerned, as from my own observations I have reason to believe that there are to be seen in such cover-glass specimens crystals of stearic acid; this I intend to clear up when more cases have come under my notice.

The assigned causes of the disease are numerously vexatious, and in the opinion of the writer a diagnosis on the part of the dental practitioner should not be given until he has quite satisfied himself that he has before him a *bona fide* case of Riggs' disease, and not one where only the presence of a little calculus is sufficient to effect a local ulceration and not an infective progressive ulceration of the periodontium.

During the past two years the writer has without exception examined microscopically all suspected cases of Riggs' disease, and before deciding upon treatment has found in all genuine cases the presence of a particular bacterium, which is probably of the anaërobic variety. The discovery of this organism led the writer to find an efficient antidote, which from the condition of the parts described in the earlier part of the paper suggested it should be of the nature of a stimulant rather than that of a depressant, and so far the medicament has not failed in a single case. On the second succeeding day of application microscopical examination showed an entire absence of the microorganisms, which were previously plentiful, and there was much less turgidity of the muco-periosteum in connection with the periodontium. The writer has not been as yet able to obtain tissue (either from the living or the recently dead subject) to confirm the supposed connection of the effects of the organism with the lymph-channels.

The cases which have come under notice have had histories of duration from a few months up to ten years, and even such chronic cases as the latter, which necessarily had been under other treatment to retain any teeth at all, such as copper sulfate, pyrozone, etc., answer readily to the prescribed antidote, which consists of green iodid of mercury triturated in a mortar with a little glycerol, to allow of greater readiness of application to the sulci of the affected teeth. The efficacy of the prescription is easily discernible by the fact of the tissues readily bleeding after the first and second application, which is best done on a small chisel-shaped piece of orange-wood (metal must not be used) fixed to a small holder; of course using a fresh one in those positions where the teeth are unaffected as an extra precaution, although the writer is convinced that the mercurious iodid is sufficient to destroy an infection if inadvertently made. The pain and general discomfort disappear and the patient can masticate with comparative ease, even during the early treatment, and the discharge of pus on pressure rapidly disappears,

while the muco-periosteum rapidly assumes a more healthy appearance.

The writer is inclined to look upon this disease as another example of those affections which accompany a general lowered condition of the mesoblastic element as a predisposing cause, the real excitant being a bacterium. The presence of a special kind of calculus beneath the gingival margin is more probably due to the irritation of the mucous glands, consequent upon the disease affecting the periodontium, rather than to its presence being the exciting cause of the trouble, and therefore only secondary in importance. This somewhat causes the writer to differ from the alleged causes, such as the gouty diathesis, etc., producing the condition described as progressive infective periodontitis.

If the observations made by Mr. Whittles are confirmed by further investigation, it would seem that a rational explanation of the etiology of phagedenic pericementitis is near at hand. It would be, in addition, a vindication of the position maintained by those who believe that the immediate exciting cause of phagedenic pericementitis is a bacterial infection—a view long held and maintained by Professor Truman. The constitutional factor which determines the predisposing cause is, we believe, clearly made out to be a lowered vital resistance of the tissues which are the seat of the disorder, resulting from malnutrition induced by any of its well-known causes, among and most prominent of which is lithemia or the gouty diathesis.

In view of the well-known relationship of gouty pericementitis to other arthritic disorders, it would be interesting and important to determine whether the particular bacterium described by Mr. Whittles is to be found as the excitant of inflammatory conditions in other forms of arthritis.—*Editorial in Cosmos, Nov. 1898.*

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STUDY OF PHYSIOLOGICAL AND PATHOLOGICAL CONDITIONS OF THE APICAL PORTION OF THE CEMENTUM. By Israel P. Wilson, D.D.S., M.D., Burlington, Iowa. Read before New Jersey State Dental Society, July, 1898. The successful treatment and ultimate preservation of a pulpless tooth depends almost entirely upon the condition of the cementum around the apical foramen. If treatment and filling have not restored a physiological condition, nature will be unable to come to the rescue of the diseased portion of the tooth. A study of the anatomical structure of the end of the root when in a physiological condition, its direct communication with the pulp, and the greater danger of lesion at

that point than at other portions of the cementum, is the object of this paper. It will be remembered that while the periphery of the dentin separates the pulp circulation from the cementum, there is at the apical portion of the root direct contact of the pulp with cementum, so that the lacunæ send out their processes or canaliculi to the root membrane on the one side, and to the dental pulp on the other.

Every day's practice reminds us of the fact that a tooth has two distinct sources of life, each independent of the other, the one through the pulp and the other through the pericementum, and that a tooth is not dead until both supplies are entirely cut off. If arsenic is applied to the pulp for devitalization, its deadly effect stops at the periphery of the dentin. Nature has wisely placed there a line of demarkation which may not be passed by the deadly drug. It would seem that this could not be so, if a vital connection existed between the cementum and the pulp, for the arsenic would devitalize one as well as the other. But this disputed question of nerve connection between the cementum and the pulp need not be discussed here. There is, however, an exceedingly small portion of the apical cementum that comes in direct contact with the pulp, and doubtless has vital connection with it.

Pulp Removal Advantageous in Pyorrhea. The thickness of the cementum at the end of the root determines the extent of contact with the pulp. The cementum at this point is thicker and more vascular than in other portions of the structure. Through it pass the blood-vessels and the nerves that supply the pulp, but before these vessels and nerves enter the pulp-canal, the peridental membrane and the gums receive from tributaries their vascular and nerve supplies. If the pulp supply is cut off by devitalization, the pericementum receives an increased supply from the flow that has been diverted from the pulp. Like the currents of water that form the deltas of a great river, if one stream is cut off and the channel obliterated the volume of water is increased in the other channels. This doubtless accounts for the fact that destruction and removal of the pulp and successful filling of the canal increases the vigor of the pericementum, as is proven by the fact that such teeth are rarely attacked by pyorrhea alveolaris. Indeed, the devitalization of the pulp in the early stages of this disease will go far towards arresting its progress. A tooth, then, receives compensation for the loss it sustains in the destruction of the pulp; yea, we

may go farther and say that an increased supply of nutrient material is diverted from the internal circulation to the external, thereby strengthening the pericementum and fortifying it against the ravages of disease. This increased functional power of the root-membrane to build up tissue also increases its power to tear down and carry away dead and useless material, as in absorption of dead matter. I need not dwell longer on the physiological relations of the apices of roots with surrounding tissues. Unlike the rest of the cementum, it does not come in contact with the dentin, but does approximate pulp and doubtless has direct communication with it.

Danger in Repeated Arsenical Applications. I have referred to the fact that the pulp circulation terminates at the periphery of the dentin, and that the devitalizing effect of arsenic does not pass this boundary line, but the apical cementum is evidently not exempt from this danger. My observations have led me to believe that the unguarded use of arsenic is attended with more danger in devitalizing pulps and increasing the uncertainty of complete success of the operation than any other cause. I am not prepared to abandon the use of the drug, but I have modified the administration of it materially in my practice. I am convinced from experience that a sufficient quantity of arsenic to entirely destroy vitality, so that no pain whatever is experienced by the patient in removing the apical portion of the pulp, is dangerous practice. We have all observed that a moderate application of arsenic for twenty-four to forty-eight hours will usually devitalize the bulk of the pulp, while the apical portion may remain alive. Here is a temptation to make a second and sometimes even a third application, which always endangers the life of the apical cementum. Our patients will plead for more thorough devitalization, and out of humane considerations we are too apt to yield to their entreaties and apply more arsenic. When this is done I am satisfied that the apical cementum will almost certainly share the fate of the pulp, and necrosis of those tissues is the result. The removal of the remaining portion of the pulp and the filling of the canal will of course be accomplished without further pain, and all for the time seems to be well. Our patient may remain so well satisfied with the operation that he will not return with any complaints, and yet if questioned about the condition of the tooth he will probably say, "Oh, it doesn't give me any particular trouble, it doesn't ache, but it feels a little uncomfortable at times." On per-

cussion we find the tooth a little more sensitive than the others. Hot drinks will at times affect it. If one sits in a draft or takes cold this injured organ is first to respond. Yet it rarely assumes an acute form; the disease develops more of a chronic nature. It is one of those cases that we usually dismiss by saying, "You have taken a little cold, or you have a slight touch of neuralgia and will soon be better." But this dead cement remains as an irritant, and nature undertakes the task of breaking down and carrying away the foreign material. While the solution of the lime-salts is going on the peridental membrane endeavors to come to the rescue, and a superabundance of cement is deposited around the apex. I have no doubt but it has been observed by most of my hearers, that on extracting such teeth. the apical cementum is found to be absorbed, while an hypertrophied condition of the adjacent cementum has sometimes taken place. This is a vain effort on the part of nature to create a physiological condition. My conclusions, then, are that arsenic should be used sparingly and that second applications should rarely if ever be made. It is not usually very painful to remove the apical portion, if the operation is instantaneous, and a spring-tempered instrument is used that is small enough to pass freely to the apex, but not through the foramen, when a whirl of the instrument will sever the remaining pulp tissues.

In this way a physiological condition of the entire cementum has been preserved, when if the canal is closed tightly with medicated cotton and kept in an aseptic condition for one week, and is then properly filled, no subsequent trouble may be expected. My method is to medicate the cotton to be placed in the root with beachwood creosote, close up the cavity tightly with aromatic sandarac varnish, and let it remain one week before filling. A failure to remove small portions of the apical tissues of the pulp, and then without embalming those tissues proceed to fill, will almost certainly create a pathological condition of a sluggish if not of an acute character, and we will have symptoms similar to those above described from arsenic poisoning. While such teeth will be tolerated by our patients, even though uncomfortable for many years, yet such an operation cannot be pronounced a success. The irritating matter at the apex of the root will keep up an annoying sensation, but not enough to force a fistulous opening which would leave the tooth more comfortable but not relieve the pathological condition.

Death of the apical cementum, then, means disease. The functional power of the pericementum is aroused to increased activity in order to break down and carry away the extraneous matter, at the same time furnishing a superabundant supply of nutrient material for restorative purposes, and excementosis of the normal structure of the cementum is the result. The breaking down of tissue is always recognized by nature as a call for new supplies, and whenever the cementum becomes impaired a normal quality of the same tissue is deposited, but usually abnormal in quantity. But these deposits of nutrient material cannot restore to life the necrosed cementum; and it matters not how thoroughly the root may be filled, there must continue to exist a feeling of discomfort if not actual pain while the irritating cause remains. How many of us have had experience in removing root fillings for the purpose of treating teeth that have a "sore spot" at end of root, when we have found the canal well filled and in an aseptic condition. Further treatment through canal of such a tooth will prove unavailing for the lesion cannot be removed that way. The dead cementum is the cause of offense, and nature rebels.—*Items of Interest, Oct. 1898.*

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EVOLUTION OF DENTAL MATERIA MEDICA. By William H. Trueman, D.D.S., Philadelphia. Read before New Jersey State Dental Society, July, 1898. Whether considered in its relation to general medical practice, or in its relation to the many specialties concerned in preserving the normal, or in restoring morbid or unnatural conditions of the human economy, scientifically considered materia medica practically has been by far the least satisfactory and least progressive of any department of the healing art. The chemistry, the manufacturing, the commercial aspects of materia medica, the weeding out of the inert, and the addition of more potent remedies, and in some respects, the better understanding of the part remedial agents play, that which can and that which cannot be be expected of them, has kept fully abreast of the general advance of human knowledge, and has utilized to its utmost the resources which its marvelous progress has constantly provided; but in its practical application of the why and the wherefore, how little do we know more than did the first of our progenitors who learned to immerse an inflamed member in the cool waters of a mountain stream, because by so doing it felt better and sooner healed.

It is true that repeated experiences of past ages have been utilized to lay down a series of principles. We have divided the material at command into classes, associating together those the more pronounced effects of which are strikingly similar. We have learned in a general way that this or that agent antagonizes this or that abnormal condition. We have also learned that certain parts of the economy respond to the presence of certain agents. We have also learned that certain agents when present in the economy at the same time so antagonize each other as to become inert, or at times to produce jointly a different effect from that produced by the one or the other alone.

All or the most of this has come to us not as deductions from well recognized laws, but rather as the results of repeated empirical trials. The everyday application of even the few items which we have been pleased to consider basal is accompanied with constant disappointments and surprises, so much so that every physician and every dentist, as his experience increases, is compelled to make his own selection of appropriate remedies, form his own estimate of their scope and value, with so little regard to rules or science that between practitioners of either art, working side by side, we see radical and violent differences, and with it all an equally gratifying success.

For the most part, the way in which drugs produce their characteristic effects; why this expels the contents of the alimentary tract through the anus and that through the mouth; why one controls the action of the heart and another expends its energy exclusively upon some other organ; why one excites and another calms, are to-day as profound mysteries as they ever were. In a few instances we may in a measure ascribe the results to mechanical or chemical energy, but for the most part chemical affinity or known mechanical laws utterly fail to explain the phenomena. All that we know concerning this has been learned by comparing and tabulating repeated experiences; and at best, in applying the science of materia medica to everyday work, we are safe only in suggesting *probable* effects

Notwithstanding all our nineteenth century intelligence, the whimsical superstitions of the past are not infrequently successfully pitted against the science of the present, and the galvanic ring and inert potion of the quack bear off the victor's palm.

The medical and corelated professions have failed to develop among the masses of their members the faculty of carefully observing and

reducing to a science the behavior of remedial agents to the same useful fullness and accuracy as they have that of the various ills they are called upon to combat; indeed, when we consider how much the effects of medicines are controlled by the patient, and the thousand and one things that the administrator can neither see, feel nor appreciate, which greatly modify the action of remedies, this is not surprising; nor yet, that a majority of practitioners having found tact and judgment such potent allies, are willing to give science, the less conspicuous aid, a correspondingly less consideration. It is but just however, in thus giving to the science of remedies the laggard's place, to bear in mind that it is and must ever be a follower, which is indeed its natural place. We must first locate the disorder and ascertain its character before we seek its remedy. Looking backward, we see how now and again a clearer knowledge of diseases, of their location and of the tissues involved, has been quickly followed by radical revolutions in the treatment and remedies used. And again, as before hinted, the progressive practitioner in the use of remedies is continually hampered by the prejudices, whims and fancies of the patient.

All these matters must be considered in attempting to follow the evolution of materia medica, either as a whole or in connection with any specialty of the healing art. It may perhaps be more just to say that the science of materia medica sooner reaches its ultimate than do most other sciences, and that its assumed facts are less easily proved or disproved. Many pathological changes leave in their track the story of their rise and progress as accurately recorded and as easily read as that which the geologist unfolds, but who can understandingly read the vagaries of the human mind? Who can say that the recovery is directly due to the remedy, or that some other drug would have done better? How can we prove that our remedy was necessary, or that recovery was possible? Indeed, for the most part the remedial action of pills and powders, incantations and charms, while at times equally efficient, equally resist any attempt at logical explanation.

Materia Medica in Dentistry. Our specialty being limited to a small part of the human economy, having but few pathological conditions to combat, and being comparatively free from mental interference on the part of the patient, has perhaps made a more logical use of the remedies at its disposal. We have been hampered how-

ever, especially in the early part of our history, by the imperfect knowledge of the structure and anatomical relations, and of the local diseases and the pathological affinities of the teeth and their surroundings. We have been so overshadowed by general medicine, with its prejudices and time-honored traditions, that progress was and has been very slow, even in later years. In a general way the evolution of materia medica in general medicine and in dental practice has kept pace with the advances of the preparatory sciences, anatomy and pathology. Looking backward again, comparing the practice of to-day with that of a few centuries ago, noting especially how greatly human suffering has been lessened and made more tolerable, we are apt to exclaim, "What a marvelous change!" And so it is, but if we trace its progress step by step, while we may note at wide intervals now and again a seeming revolution caused by some brilliant discovery, *real solid progress has been very slow.* In our own specialty it is hard to realize that it required nearly three-quarters of a century for porcelain artificial teeth to supplant their foul-smelling and repulsive predecessors; or that the present comparative success of pulp treatment has been reached within recent years only after more than a century's patient and well-directed experiments; or that the cause of dental caries for ages eluded the diligent research of so many able investigators, to be fully explained but a few months ago; and yet these statements are quite true.

The early history of dental materia medica has not yet been unraveled; we know enough, however, to feel assured that disorders of the teeth and their appropriate remedies were studied in re note ages, and that the dental science of to-day originated in the long-forgotten past. So far back as we can trace the records we find earlier writers referred to as authorities and their assertions challenged or accepted. Until about the middle of the sixteenth century we have no record of any work upon the teeth by a dental writer; all we find is embodied in medical works by medical writers, who were ambitious to include in some general system the whole catalogue of human ills. If we judge these works by that which has been done with the same object in view by much more recent writers, these dental injections must be received with much caution, and recognized only as an exposé of the dental science of their day, in the absence of better information. Indeed, as a rule

they bear unmistakably the impress of writers lacking special study and practical experience.

In tracing the evolution of dental materia medica we shall endeavor first to ascertain the progress it had made at the time when the oldest available record was written, and take as this starting point, as a mere matter of convenience—being more familiar with it than with other of perhaps equal merit—the chapter on toothache in Vigo's Surgery. Giovanni da Vigo, the writer of this book, was a distinguished Italian physician, a native of Genoa, whose ability attracted the attention of Pope Julius the Second, who called him to Rome to become his first surgeon. In 1514 he published the work in question, a System of Anatomy, Medicine and Surgery, which at once on its merit was widely accepted as a standard text-book, and was honored by repeated editions in various languages. We accept this chapter on toothache merely as an exposition of the dental science of its day from a medical writer's standpoint. It is simply a recital of matters gleaned from previous medical works, and bears but little evidence, in matters relating to the teeth and their surroundings, of originality or of practical dental knowledge on the part of the writer.

So closely associated are the sciences of pathology and materia medica that we cannot intelligently discuss remedial agents in this connection without considering to some extent pathological conditions also; indeed, until we first know the accepted ideas concerning diseases of the teeth and of the gums current early in the sixteenth century we cannot understand the purpose of the remedies proposed. I purpose therefore to give at some length the main points of this exposé of dental science as it was nearly four centuries ago.

Vigo on Toothache, 1514. Regarding the general anatomy of the teeth and the surrounding parts this writer had a fairly accurate knowledge, but of their minute anatomy he knew absolutely nothing. He begins the chapter on toothache by saying: "The teethe are wont to be vexed through a reumatyke matter distillinge fro ye brayne, and through the fauet of the stomake, when under sondrye passions, but seynge that the teethe serve for comelynes, for chewynge of meate and for pronunciation, therefore they must be cured wyth all dilligence." Quoting from an earlier writer, he names six diseases of the teeth, "pain, corrosion, congelation, dormitation, filthiness and looseness." Pain seems not to have been

considered a symptom of a disordered condition but the disorder itself; and a vague idea was entertained that this pain was in some way due to an inflammation of the tooth substance and was more severe than other pains, because on account of the hardness of the teeth this inflammation was not relieved by suppuration as in the soft tissues. He states, still quoting from older writers, "The teethe have no feeling in themselves, but by reason of nerves which come from the third pair of nerves of the brain to their roots and to the gums; this is evident, for when one little piece of the tooth is broken the man is not pained. The pain comes by an evil complexion of the nerve, or a hot or cold aposteme (abscess), wherefore, sometimes the pain is aswaged when the tooth is pulled up and the matter which caused the pain is allowed to escape." This manoeuvre, it is added, also permits the medicine to enter more easily and ease the painful place. When all else fails, on the authority of Galen, we are advised to pull the tooth out by the roots.

Corrosion we readily recognize as caries; and he recommends that the corrosion be removed with trephines, files and other convenient instruments, the cavity to be then filled with leaves of gold to preserve the place from putrefaction.

Congelation he tells us "chanceth to the teeth of outward or inward things. Of outward when a man eateth sour things, of inward when lower vapors ascend from the stomach. Also there is yellow filth sticking to the teeth and the roots thereof, which comes of gross vapors ascending from the stomach, and which may be removed by rubbing with convenient instruments." He recommends the following powder for cleansing the teeth, preserving the gums, making the teeth white and remedying the stinking of the mouth: ℞, Rock alum, burnt, 2 dr.; sarcocolla (Persian gum), terra figillata (potter's clay), mitabola citrine (lemon peel), of each 1 dr., mingle them together and make a powder and rub the teeth therewith, in the morning fasting, twice a week."

Dormitation is a disease of the teeth referred to by the old writers which I am unable to recognize. This writer says it is caused by holding cold things or stupefying medicines in the mouth, and recommends for its removal the following, to be held in the mouth warm: "℞. Odoriferous wine, half a pound; aqua vita, 1 oz.; rosemary, sage and camomile, of each a scruple; sandrake, 1 dr. Boil

these together until one-third part is consumed, then strain them and use as directed. Aqua vita, applied to the teeth with cotton, takes away the dormitation and congelation." Both these expressions originated with the ancient writers, and are found repeated in medico-dental works like this. In none have I so far found a description sufficiently exact to identify them with conditions met with in practice.

Looseness of the teeth he tells us arises from a looseness of the gums, or through debility or weakness of the roots, or of the parts which bind the teeth, caused by rheums and humors descending from the brain, sometimes by corrupt vapors mounting from the stomach. For the cure of this disorder he recommends the following medicine: "℞. Syrup liciti, 10 dr.; rock alum, 3 dr.; water of plantain, 1½ dr.; wine of pomegranate, 3 dr.; honey of rose, 6 dr.; Persian gum, ½ dr.; vinegar of squills, ½ oz.; leaves of wild olives somewhat bruised, half a handful. These, except the liciti and honey of rose, are to be sodden together, then strained, then sethed again with the liciti and honey of rose until two parts out of three are consumed." The gums are to be rubbed with this composition, "for it fastens the teeth, and removes the putrefaction and comforts the nerves which come to the roots of the teeth." If a more desiccative medicine be required, he recommends the unguentum Egypticum of Avicenne, "which hath virtue to remove the evil and to conserve the good." We have in these two medicines the combination of astringent and sedative, the last partaking somewhat of a caustic. We would to-day, in a like condition, with better prepared and more active agents, still use astringent and sedative remedies, resorting to caustics if more potent means were required. He then goes on to say: "Beside the six causes before named, pain of the teeth may come of worms, which are engendered in the hollowness of the same, or by abscesses of the gums."

He next speaks of "hot and cold apostemes." I gather from him and other writers of that period that by these expressions they referred to abscesses accompanied by inflammation, or periosteal irritation, and others where the inflammation was not so pronounced; and in this connection they also included exposed pulps. The science as expounded by medical writers had not yet reached the point when these several conditions were recognized as separate and distinct. A hot pain was one which was eased by cold applications,

a cold pain one which ceased on hot applications being made. For the relief of these conditions resort was had to hot or cold applications, to purging, to local medication, and to diet. In addition cleanliness of the mouth and teeth is urged, and that the patient's wine should be of good odor and mingled with warm water. On the authority of Mesue, as a further measure of relief, if the matter is hot, blood-letting, a blister on the shoulder or nape of the neck, scarrification of the gums and application of blood-suckers (leeches) are recommended. Nearly all the remedies are more or less astringent in character. Vinegar was a stand-by in dental medicine, from its supposed ability to penetrate the hard tissues of the teeth and carry to the seat of pain the virtues of the various remedies combined with it. A favorite remedy ascribed to Avercenne was vinegar in which an adder's skin had been steeped, or a decoction of a frog sodden in vinegar and water. Mesue recommends camphor, corriander seed, the juice of nightshade, and sumac, in the relief of tooth-pain. At the time this book was written the medical profession was in close bondage to the old masters, so far as its text-books were concerned. The light was beginning to break, but personal experience was apologetically expressed, and opposed very cautiously indeed to the accepted tradition of the past.

He gives a number of remedies for real or fancied diseases of the teeth; most of them are vegetable decoctions and stews, containing a large number of ingredients which we to-day consider of but little value. Gum-camphor, alum, acetic acid, alcohol, and a few aromatics are all that have retained their place in modern dental materia medica. He closes the chapter with a plea for more earnest attention to disorders of the teeth, gums and associate parts, and suggests that those surgeons who are so ready to recommend their patient to the barbers and wandering vagabond tooth-drawers would do well to see those worthies at their work. Whether this remark is intended to be a reflection upon the surgeons or the tooth-drawers is not clear.

Works of Early Writers. Dental bibliography records the publication of a number of works during the sixteenth century, which judging by the titles were intended for lay readers. For example, one by Gualther Hermann Ryff, Wurzburg, 1548, entitled (translating the title from German into English), "A useful account of how one may keep the eyes healthy and the eyesight sharp; and

preserve the teeth fresh, solid and healthy." Others again treated upon disorders of the eyes, ears and teeth; while a few were exclusively upon the teeth. They were the beginning of popular dental literature. I have seen but two of them, the first in German, dated 1532, compiled by an unknown writer; the second, the first denial publication in the French language, by Urbain Hemard, Lyons, 1582, entitled, as translated, "Researches on the true anatomy of the teeth, their nature and properties, in which it is shown they are more than other bones; also, how to cure the diseases to which they are subject from our infancy to extreme old age, and the remedies proper for the one or the other age. Afterwards upon the rules necessary to conserve their health. Compiled from the writings of Hypocrates, Galen and Aristotle, confirmed by the more important ancient and modern authors."

Of this writer I have so far been unable to gather any further information than is contained in the title-page of his book. He was the first of a long line of learned and talented French writers and investigators, to whom we as dentists are indebted for our early professional literature. Long before anything concerning our specialty had been written in the English language of the slightest scientific value, these writers had fully covered the whole field of that which we now know as dental and oral science. Their contributions laid the foundation of our professional literature. The more they are known the more we will admire their professional spirit and appreciate their scientific and practical value.

It was no doubt a mere chance, but how very fitting that this book, occupying the position it does in our professional literature, should be as it is, a mere resumé of the dental work of ancient standard medical writers, industriously collected and well arranged. He thus gives to his countrymen interested in dental science a very fair presentment of the accepted theories and practice of the art on record at the time in which he wrote, and thus furnished them a starting point from which to begin their own original work. He may have corrected somewhat the anatomy of the teeth and their surroundings, but otherwise he merely repeats the opinions and suggestions of accepted authorities, following in this respect a custom long venerated by medical writers of his day.

Martin, Dental Remedies, 1679. A little work by B. Martin, dated Paris, 1679, entitled "Dissertation sur les Dents," evidences

a marked advance. The writer is not the mere mouthpiece of long-dead masters, but has given us an original work and an excellent one so far as it goes. I note especially his remarks upon the diseases of the teeth and gums, and the various remedies proposed, are far more in accord with modern ideas, more practical and to the point, than any previous writer whose works I have examined. One is impressed on reading his work that he knew whereof he wrote and was not dependent upon others for the information given.

For removing stains and discolorations from the teeth he recommends to use first a steel instrument with a point shaped somewhat like a lancet, following this with wine which has been brought to a boil and then a little salt and alum added. This is to be applied by rubbing the teeth time and again with the corner of a handkerchief saturated with it. In other cases he recommends for the same purpose a solution of rock salt and sal ammoniac of each half-a-livre, and rock alum four ounces; to be pulverized, placed in a glass albumic, and a little water added. This, he says, whitens the teeth marvelously. At times he adds a quart of water to this to prevent its roughening the teeth (page 77). He refers to and condemns the habit some persons have of using for the purpose of whitening their teeth spirits of salts (hydrochloric acid), vitriol (sulfuric acid) or aqua fortis (nitric acid), stating that they not only calcine and corrode the teeth, but undermine and destroy the gums, and that their frequent use gives to the teeth a permanent yellow color. He likewise condemns cosmetics containing sublimate (mercury bichlorid) or arsenic, as being injurious to the teeth (page 60). As a dentifrice, or as the old writers more frequently term it, "an opiate for the teeth" (the word opiate in this connection meaning simply a medicine, or a medicinal preparation, without reference to its containing opium as one of its constituents), he recommends the following: "Gum lac, one ounce; cinnamon bark, feverfew root, of each six drams; pulverize these separately and pass through a fine sieve; then add one ounce of dragon's blood finely pulverized, the same of red sandel, and of prepared red coral the weight of two écos (an obsolete French coin). After all these powders have been well mixed, place them in a marble mortar with sufficient julep of roses to make a soft paste. This is packed into crockeryware pots and so preserved for use. Those who prefer may perfume it with a few grains of musk or ambergris." This he says is admirable for

cleansing and whitening the teeth and strengthening the gums, and adds that he has found it more useful for this purpose than any other preparation (page 72).

To arrest hemorrhage after tooth extraction he recommends that the mouth be first washed or rinsed with wine that has been heated to the boiling point with a little rosemary and alum, to which a little myrrh or a few sprigs of myrtle may be added if desired. After this has been used he charges a quill, in roundness about the size of a pea, with calcined Roman vitriol (probably sulfate of iron), and applies this to the gum, to the socket from which the tooth has been drawn. He states that this should not be used unless absolutely necessary, as it is a caustic. He has sometimes used the powder of burned sponge or the fur of a hare with good effect in arresting hemorrhage (page 39). In a condition as described closely resembling pyorrhea, he recommends oil of vitriol or sulfuric acid, to break down the carious bone and to separate it from the healthy. He also for similar conditions advises the use of nitrate of silver—then known as pierre infernase (page 132).

In estimating the value of this little book as an exponent of our science, we must remember that it is not and was not intended to be a text-book. It was written mainly for the information of the public, and treats only of so much of our art as would usefully serve this purpose. In every way it is a marked advance; the writer evidences a clearer knowledge of the structure and surroundings of the teeth; he has broken away completely from the old masters and speaks from his own experience. His remedial agents, the few that are given, are well chosen, and in the hands of laymen might be to-day used with advantage and with perhaps less risk than many more potent. Fauchard tells us that the writer was an apothecary.

First Dental Text-Book, 1828. We will now step forward half a century to the publication of the first dental text-book, the first work of which we have any knowledge, written by a dentist for the express purpose of instructing dental practitioners and dental students, "The Surgeon Dentist," by Peter Fauchard, published at Paris, 1728. Peter Fauchard was, I think, the first writer to style himself a Surgeon Dentist. Very briefly indeed we will review his work in systematizing dental pathology and dental therapeutics. In chapter V. of the first volume of his work he arranges the dis-

eases of the teeth into two classes. First, diseases of the teeth themselves; and second, those diseases symptomatic of diseases of the teeth.

The first class he subdivides into two. First, those due to causes operating within the teeth, such as congenital weakness, the effects of malnutrition, or of such diseases as scurvy, indigestion or jaundice. Second, those due to exterior causes, such as altered secretions, the fermentation of food in contact with them, heat and cold, the use of improper tooth-powders, the immoderate use of smoking tobacco, neglect of proper care, the use of mercury, etc. He still further divides the diseases of teeth into three classes. First, those produced by exterior causes, such as tartar deposits of various kinds, uneven wear, erosion, caries, fractures, etc. Second, those affecting the parts within the alveolus, or covered by the gum, such as caries upon the roots of the teeth, inflammation, abscess, atrophy, etc. Third, disorders which the teeth cause to neighboring parts, as caries of the alveolus, inflammation of the periosteum, fractures of the alveolus, caused by extraction, hemorrhage, ulcers of tongue or lips, fistulas of the gums, palate, jaws or chin, etc.

Among disorders symptomatic of diseases of the teeth he enumerates abortions caused by diseases of the teeth, nausea, diarrhea, fever, insomnia, marasmus and convulsions of infants, etc., due to pain in the teeth, ulsters and swellings of the parotid glands and the tonsils, pains in the ears, tumors and swellings of the jaws, etc.

We have in this systematic arrangement of disorders of the teeth and disorders caused by the teeth evidence of a vast stride in exact dental science since da Vigo's days. Fauchard has no specifics for toothache, nor does he blister the shoulder or the nape of the neck to relieve an aching tooth. He uses for this purpose the oil of cloves or of cinnamon, placing a little of either or both combined upon a morsel of cotton within the cavity of decay. He uses the same medicament preparatory to filling if the cavity is at all deep. He relieves an abscess by opening into the pulp-cavity, to permit the exit of pus, or opens a way for it through the gum by means of poulticing or by the lancet. While his remedial agents seem to be few in number, he uses them with a definite purpose in view, and is well acquainted with the role each is expected to play. In the interval between da Vigo and Fauchard's day dental materia medica had become a science.—*Items of Interest, Dec. 1898.*

TUBERCULOSIS OF THE TONSIL. By Seymour Oppenheimer, M.D., New York City. In the study of tuberculosis of the tonsils it becomes necessary to divide the disease into two classes—primary and secondary. The primary form of the disease is very rare, but few cases having been reported from time to time, and their authenticity admits of considerable doubt. Stoesch submitted twenty tonsils removed at post-mortem to minute microscopical examination, and found two presenting tubercular changes. That the tubercle bacilli are present in a considerable proportion of apparently normal tonsils, and especially in the hypertrophic form of tonsilitis, has been demonstrated by several continental pathologists and laryngologists, experimental inoculations being performed upon guinea-pigs and rabbits. The tonsils selected were removed from the ordinary class of patients seen in the throat clinic. Hypertrophy was present, but no evidence of either local or general tuberculosis could be detected.

Shenker and Kruchman, in an extensive consideration of the pathology of disease, established the causal relations between primary infection of the tonsillar tissues with the tubercle bacilli and tuberculosis of the lymph glands. Primary infection may occur from the use of unclean instruments (especially the laryngoscope, which is very difficult to keep surgically clean), from inhalation of air containing tubercle bacilli, or from ingestion of tuberculous food.

In dispensary practice, where the number of patients treated within a limited space of time is very large, it is almost marvelous that more cases of tubercular infection are not produced. The examining instruments are not properly cleansed previous to their use with each patient, frequently being merely wiped off with a towel or napkin which has done service for probably ten or twenty other cases. No doubt the tubercle bacilli are frequently transmitted from one point to another in this way, but from the natural resistance of the parts infection does not take place. The dust in the majority of dwellings, especially those occupied by the poorer classes, contains a considerable number of bacilli, and as the subjects of the ordinary hyperplasia of the tonsil sleep and usually live with the mouth open, using the nose but seldom as the primary respiratory organ, it is very apparent why the bacilli should be found in the tonsillar crypts. With the exception of milk, the majority of foodstuffs ordinarily used are free from the contagium.

On examination of the tonsils suspected to be the seat of primary tuberculosis, we are not able to discover anything peculiar from a diagnostic point of view. They may appear normal, or, as is usually the case, they are hypertrophied. If a small piece be removed for diagnostic purposes and subjected to staining with hematoxylin and eosin, the lymph cells will be colored bluish-red, while the tubercle bacilli will assume that peculiar shade known as eosin red.

Occasionally the diagnosis must be based on this staining method alone, but usually it is associated with giant cells and tubercles, more rarely with caseation. Primary tuberculosis, although rare, is probably present more frequently than we suspect, and possibly many cases of pulmonary tuberculosis receive their infection through the tonsils. When the tonsil is the seat of a tubercular process, distinctly localized in this gland, one of two results takes place; either the disease remains local, not affecting the patient in any way, and is discovered only after the removal of the tonsil for other causes, or pulmonary tuberculosis develops from infection through the lymphatic system. The treatment of this primary form is very simple, and if the disease is localized in the tonsil it is absolutely curative by removing the tonsillar mass by whatever means suitable to the individual case. Tuberculosis of the tonsils secondary to the pulmonary form is of quite frequent occurrence. If we consider that, according to reliable general statistics, about every seventh human being dies from pulmonary tuberculosis, while post-mortem records of various large hospitals prove that certainly not less than eighteen per cent of all patients dying from tuberculosis of the lungs have some pharyngeal or laryngeal complication, it will be seen that, broadly speaking, every thirty-fifth patient dying in the practice of the general practitioner is afflicted with the cruel disease under consideration.

Strassman finds the tonsil involved in thirteen out of twenty-one fatal cases. On examination of the fauces, the seat of tubercular changes, we find the tonsils hypertrophied with no distinctive lesions, or ulcerations may be present over the tonsil, soft palate and pharynx. The ulcers on the external surface of the tonsil are uneven or ovoid in shape, pale in color at their circumference, but with a red base, slightly granulating. The anemia of the surrounding mucous membrane is well marked. The ulceration is very superficial, extending laterally rather than deeply, the surface being

covered with a dirty, yellowish-gray secretion. The soft palate and the uvula are usually thickened with a semisolid effusion peculiar to this disease and known as submucous infiltration, in contradistinction to deep infiltration, as seen in syphilitic disease. Frequently the tissues are thinned from atrophy and lack of nutrition, and the epithelium covering the tonsil is thinned in patches from submucous swelling, or from the pressure exerted by a distended crypt. The mucous membrane of the pharyngeal cavity and soft palate is markedly anemic, often strangely contrasting with the apparently normal complexion of the patient. This anemia shows itself in the form of either a general pallor of the soft palate and pharynx, or in what appears to be congestion, but which on closer inspection is seen to be infection of the capillary vessels, so marked that even the smallest branches on the intensely anemic mucous membrane can be distinguished. In the neighborhood of the ulcers are small elevations or tubercles, varying in color from a deep red to yellow. Schnitzler made the diagnosis of tuberculosis in one case, before there were signs of the disease in the lungs, by excising one of these small granulomata and finding tubercle bacilli present.

The local symptoms are principally pain and dysphagia. The pain is intense, but is usually confined to the diseased region. Frequently the suffering is so intense that it is impossible for the patient to swallow without the use of an anodyne, and in this connection it is interesting to note that liquids are generally more poorly borne than solids or semisolids. The pain is especially severe if the posterior pharyngeal wall and larynx are involved. The extreme dysphagia will often necessitate the use of nutrient enemata, especially towards the fatal termination of the disease. The voice is not as a rule impaired unless the larnyx is involved, but if the disease is far advanced, and especially if the tonsils are hypertrophied or ulcerated, the voice is changed in quality and its use is extremely painful. The mere swallowing of the saliva even causes excruciating pain, and the patient is often desirous of starvation to avoid the agony attendant upon swallowing. Taste and smell may both be impaired or even abolished, and the breath has a peculiar, offensive odor, which is more or less characteristic of the disease in this locality.

The diagnosis can usually be readily made, especially if there are marked pulmonary changes. The characteristic ulcers in the tonsils

and soft palate, the intense pain, the emaciation, with hectic fever, are all readily recognized. A study of the temperature affords considerable evidence in favor of the disease, if the tonsillar lesions are not well marked. There are three diseases resembling to some extent tonsillar tuberculosis, namely, lupus, syphilis and cancer. Lupus of the tonsils and pharynx is very rare, and the coexistence of a cutaneous lesion will help to clear up any doubt. Cancer can usually be distinguished by the ulcerations, which are deep and angry looking; its course is very rapid, and the cachexia is generally present. In the early stages of carcinoma, before ulceration is present, recourse to the microscope, and the finding of the characteristic epithelial structure of carcinoma, readily makes the diagnosis.

As to syphilis, the diagnosis may occasionally present greater difficulties, the more so as we must bear in mind the possibility of a double infection being present in one and the same patient. The tonsillar lesion may be syphilitic while the pulmonary is tubercular. Resort to the therapeutic test with mercury and iodid of potassium in sufficient doses will assist in establishing the diagnosis. In the more ordinary cases, however, tubercular affections are distinguished by the pallor of the affected parts, the syphilitic lesions being more of a decidedly inflammatory character. The development of the tubercular ulcer is slow; that of the syphilitic more rapid. The general diagnostic features of syphilis—absence of fever, with the history of a primary sore and the postcervical glandular enlargement—are not present in tubercular affections.

The characteristic pathological changes of tuberculosis of the tonsil are not different in any respect from those seen in other portions of the body, the locality of the disease alone giving rise to its definite local symptomatology. Before the ulcers form we must have the tubercle. These enlargements may occur as part of the morbid changes of other diseases—as syphilis, for example—but the tubercle of tuberculosis is characteristic of the affection and is seen in no other disease. Briefly, it may be described as consisting of an enlargement of connective tissue, translucent, grayish in color, and about the size of a millet seed. The cellular elements are lymphoid and round, varying in size. The nuclei are generally small and homogeneous. Between the cells is found fibrous tissue, not very vascular. The vessels are never newly formed, but have existed in the tonsillar tissue before the development of the tubercle, the latter

growing around them. The blood-supply is at all times very deficient. The nodules may be isolated, or joined together in a mass from inflammatory changes, imperfect granulation tissue resulting. As the nodule grows older caseation begins in the center, this degenerating process progressing until the nodule is a mass of granular debris.

The prognosis is as a rule very unfavorable. If the tonsil alone is affected, removal or prompt and radical medication offers some hope; but if ulceration is present and the larynx and pharynx are involved, little can be done except such palliative measures as will prolong life and make the patient as comfortable as possible. As we see by the prognosis, treatment can at best be but palliative. Lennox Browne outlines the treatment as follows: Counteract the general tuberculous tendencies, give as much functional rest to the diseased parts as possible, relieve the pain in swallowing, administer suitable nourishment, and attempt to heal the ulceration.

The constitutional treatment must always be enforced, as we can not even hope for any success in the treatment unless attention to the general health is considered. Cod-liver oil, the hypophosphites, nutritive tonics, proper feeding, etc., should be carried out as if the case were pulmonary in character. Functional rest of the parts is extremely important, as every time the patient swallows or talks the movements of the muscles concerned in phonation or deglutition keep up the irritation. If the ulcerations are extensive, speaking must be prohibited, and food administered by the esophageal or rectal tube. Relief of the pain in swallowing will necessitate a careful consideration of the food to be used. The nutriment should be of a semisolid consistency, such as jelly, eggs (poached or soft-boiled), scraped meat juice, etc. This will give an idea of the character of the food required, but of course each case may require a special dietary of its own. Heat is usually very painful, while cold is grateful, so ice may be given in small pieces. Of the drugs used to relieve the pain, cocain is undoubtedly the best. I have lately been employing a pastal composed of morphin, cocain and antipyrin, which the patient allows to dissolve in the mouth.

Treatment of the ulcers is very unsatisfactory. Without enumerating the long list of drugs vaunted as being of value, but as yet in the hands of the majority of laryngologists proving only failures, we will confine ourselves to but one treatment, that of curetting the

ulcers with the sharp spoon and then cauterizing with lactic acid. We owe the introduction of this drug into the therapeutics of tonsillar tuberculosis to Krause of Berlin. Moorhof of Vienna had extolled the merits of this drug in the treatment of tubercular disease of the joints. Krause utilized the suggestion of the larynx. In the majority of cases this has given the best results, cocain being used preparatory to the application. Of the internal remedies recommended at various times for treatment of pulmonary tuberculosis, I now in most cases employ but one—creosote in large doses. The use of this drug, combined with lactic acid applications, has yielded the best results in my hands.—*Medical Age, Jan. 1899.*

* * *

THE FIRST MEETING WITH PATIENTS. By Dwight M. Clapp, D.M.D., Boston. Read before the Harvard Dental Alumni, June, 1898. Our friend Joe Jefferson gave an informal talk at the University Club not long ago, during which he was asked which he considered the more difficult to act, tragedy or comedy. He said he did not think he could answer the question better than to repeat the reply of a late English actor when asked the same question. He said, in substance, "Let me be never so weary and out of sorts, I can pull myself together enough to act tragedy at my best; but comedy—ah, that is a serious business!" To me it is a serious business to stand before so many Harvard men and talk about the first meeting with patients. In 1868 or 1869 I had several large gold fillings put into my superior bicuspids by one of the brightest Boston operators of that time, a brilliant mechanic, but lacking in anatomical and collateral knowledge, such as is offered the students of the Harvard Dental School to-day. As a result the pulps of these teeth were not properly protected and much trouble followed. While living in Geneva in 1870 one or more of these teeth died. It may have been the result of the shock caused by the declaration of war between France and Germany, but I always laid it to too close proximity of the fillings to the pulps of the teeth. I treated them myself as best I could, and some time afterwards the late Dr. Moffatt, whom many of us older ones remember with peculiar affection, treated one by piercing the alveolus at the point of the root. With very slight interruptions these four dead bicuspids have been perfectly comfortable for more than a quarter of a century, and are now doing perfect service, reinforced by gold caps. Naturally

I have great respect for some so-called dead teeth, and these in particular.

Dreaming the other night, I seemed to experience a stab of pain in the alveolar region about these teeth. It gradually increased. There was heat, and the thumping throb preceding the abscess stage. Surely I must see a dentist. Morning seemed to dawn. Shortly I was approaching the office-door of the village dentist. I noticed that the paint was dingy, a blind at the window hung by one hinge, and the corners of the steps were packed with accumulated dust and dirt. I opened the door, my heart seeming to occupy a greater portion of my mouth than did my teeth. One glance photographed the entire office on my mind. There was a hole in the carpet, the covering of the chair was ragged, the operating-case was strewn with dirty instruments, and a glass, partly filled with water, bore on its rim the blood-marked curve of the lips of the previous victim. And my nose, it was besieged with the fumes of last night's pipe and cigar smoke, shaded down with the perfume arising from the belligerent bacteria inhabiting the cuspidor.

I was startled by a not over-gentle salutation—"Well, how are you?" "Can you tell me," I meekly asked, "if the doctor is in?" "Yes, I'm him. What's the matter with you?" I began telling him my troubles. "Oh, dead teeth, is it? Yer can't do nothin' with 'em. The only thing is to pull 'em out, and have in one of my plates adjusted to heat and cold. Got 'em fixed now with my new process, so that they are just as good whether the mercury is down to zero or whether she's a stickin' right up through the top of the glass. Great thing, I tell you!"

"But," I suggested, "these teeth have been dead a long time, and have not troubled me." "Troublin' you now, ain't they? I tell you there can't be nothin' done for dead teeth but to pull 'em out. Never was one but would have been better out than in. You better set up here and let me yank 'em right out, and have it over with. You never will get no comfort until you have one of my plates, adjusted to heat and cold."

Just then the pugilistic bacteria got in another round, and I mustered up sufficient courage to feebly say that I thought I would try them until afternoon, and if they were no better then I might have them out. As I stepped out, half expecting to be forced back by

some invisible power, I heard, as the door closed behind me, "Nothin' like that plate of mine, perfectly adjusted to heat and cold."

On reaching the street I was reminded by another twinge that my troubles were not over. "Why not consult Dr. Hifalutin?" some one suggested, so I at once sought his office. On being ushered into the doctor's presence I gave him a history of my troubles. He listened in grave silence, and as I proceeded I could see that he considered my case a desperate one, and that he must brace himself, so to speak, in order to do it full justice. After I had finished the details, he majestically waved me towards the operating-chair, and said if I would be seated he would try to ascertain, by concise observation, if the condition of the affected parts gave pathological evidence corresponding to the train of symptoms I had narrated.

As he raised my lip and caught sight of my teeth and gums his face darkened, and I could see that he considered the situation exceedingly complicated. "Yes," he said, "I fear the organs have lost their vitality; sometimes, however, great pain is exhibited in the bicuspid region when there is really no lesion there, the real cause being located in some one of the dentes sapientiæ. In your case the appearance of the gingival borders would indicate stasis. The alveolar ridges may have become denticulated from the inflammatory action, causing the hypertrophy of the membranes and great preponderance of the circulatory fluids. Sometimes these cases, if not properly diagnosed and skillfully treated, lead to the most serious results. I had a case the other day that started from the same cause as this, where the osseous tissues involved included not only the alveolar plates, external and internal, the maxillary bone, and the superior and inferior turbinate, but also, I suspected, a slight affection of the extreme end of the nasal. These teeth had been deprived of their central nutritive organs only twenty-six and a half years, instead of twenty-eight, as yours have. The effect on the soft tissues was much more apparent to occular interpretation. The mucous and submucous membranes were much distended. The masseter, external and internal pterygoid muscles were somewhat rigid, the stylo- and hyo-glossus more or less constricted, while the condition of the orbicularis oris and the levator labii superioris alæque nasi was such as to give a most

strained and interesting appearance, from a purely scientific view, to the mouth on that side." Cold perspiration was beginning to start from every pore. "It is exceedingly fortunate for you that you came to some one able to diagnose and scientifically treat such a rare and complicated pathological condition. It will be necessary, I fear," he continued, "to trephine the external alveolar plate over the buccal root of the first bicuspid, curette the track of suppuration, and insert a canula to insure perfect drainage for the broken-down and disorganized products of decomposition during the process of granulation and repair."

Drawing a long breath and pulling myself together as best I could, I managed to faintly articulate, that if what he had said should strike my cerebrum with sufficient force to wake it up, and if the result should be a differentiation of his diagnosis and his prognosis, and if my medulla oblongata should insist upon it, I would return in the post-meridian to be operated upon.

Again I found myself in the street, discouraged and at a loss which way to turn for help. Suddenly raising my eyes to an attractive house, I saw in modest letters the name John Smith, D.M.D. I was filled with hope at once. Surely *John Smith, D.M.D.*, must be able to aid me. Without hesitation I entered his neat apartment. Here, as at the other place, the whole surroundings were stamped on my mind in an instant. There was no display of wealth, but neatness and artistic harmony everywhere. It was homelike; there were no guillotines hanging from the windows or ceiling, no electrocuting appliances boldly displayed. There was no show of steel to further excite my already high-strung nerves, and no smell of ether to suggest that I must take an anesthetic, or carbolic to indicate the sterilizing of scalpels and gouges. Everything was just nice.

A cheery voice said, "Good-morning." Turning, I saw a gentleman. Gentleman was stamped on form, feature and bearing. I again told my story, this time into a willing and sympathetic ear. The interested, thoughtful and pleasant face of the doctor invited confidence. "Surely," he said, "teeth that have served you so long and well shall have our best efforts to keep and preserve them useful for some time yet."

With a snow-white napkin and dainty fingers he lifted my lip to make the examination. With great care and minuteness he noted

every feature of the case. "I do not think we need expect any serious trouble," he said. "There has been some disturbance of the circulation about these teeth, but I hope it will be of short duration. I will make an application calculated to allay the inflammation, and you may hold cold water in your mouth or apply ice to your face to keep the blood away from the part as much as possible. If this fails after a few hours' trial you must come back. There are many other things I can do to promote a speedy return to health."

My fears allayed, there was immediately a lessening of the blood tension, and an improved condition which always follows when one has had an interview with his physician, in whose skill and honesty he has entire confidence. I awoke with the feeling that I had found a dentist in whose hand I could safely trust my teeth; one whom it would be a satisfaction to have as my confidential dental physician, and a worthy associate wherever we might chance to meet.—*International, Dec. 1898.*

PARALYSIS OF THE ARM DUE TO DECAYED TEETH.—In the *Munchener medicinische Wochenschrift*, Nov. 29, 1898, Dr. Muhl Kuhner, a surgical dentist of Landen (Pfalz), reports the case of a young woman, twenty-four years old, who for two and one-half years was affected with paralysis of the right arm and right side of the neck. This was supposed to have been the result of a fall, in which her arm was fractured, but appropriate treatment failed to improve the condition. She visited Dr. Muhl Kuhner to have her teeth attended to. Several of the teeth were filled, and one, the third upper molar of the right side, was extracted on account of deep-seated caries. The next day the patient returned to inform the doctor that her palsy had disappeared and she was happy in the full and free movement of the previously affected parts. A similar case is reported in the *Correspondenz-Blatter fur Zahnarate* of April, 1898.

IMPORTANCE OF EARACHE.—(1) Earache, however slight, may signify disease that, neglected, may terminate in loss of hearing, even of life itself. (2) Recurring earache in children is almost always associated with lymphoid hypertrophy of the pharynx, depend on it; and permanent impairment of the function of the ear is prevented only by early surgical treatment of the "adenoids." (3) Acute inflammation of the middle ear may be frequently aborted if proper treatment—mostly of a general sedative character—be administered early and with precision. (4) If relief be not obtained by the second day, an expert examination of the ear should be made, and proper surgical treatment applied to relieve intratympanic pressure and possible involvement of the mastoid cells or intracranial structures. Failure at this stage to obtain as exact knowledge as possible of the condition of the middle ear is criminal neglect.—*Hinkel, Buffalo Medical Journal.*

Letters.

NEW JERSEY LETTER.

To the Editor of The Digest, NEWARK, N. J., Jan. 20, 1899.

MR. EDITOR:—The past month has been replete with dental meetings and the enjoyments thereof have been many, while the attendance was large and appreciative.

The Second District Society held its annual meeting on Monday, January 8, the First District of New York and the Central Dental of New Jersey being invited as usual. Hornet counted 123 in attendance, which is a large meeting even for the metropolis. The Jersey boys were out in force to enjoy the feast of reason, as well as the substantials after the meeting had adjourned.

The Jerseyites were called upon and responded nobly in defending the examining board and the state law. Dr. Hill, that veteran we all respect and admire, said that in a confidential talk he had with Dr. Kirk he told the latter that New York had the best dental law in existence. This was too much for New Jersey and Dr. Meeker arose and declared that New Jersey's law was superior to that of New York. Our law has been criticised because the examination papers are not on record at the state house at Trenton, but they are kept by the secretary of the board and are always open to inspection. Dr. G. Carleton Brown also affirmed that so far as interchange of license was concerned the matter had been fully discussed in the National Association of Dental Examiners four years ago.

Dr. Ottolengui made the speech of the evening and the only decided point of the whole meeting, it being in reference to a plan for licensing graduates to practice. Same will appear in report of the meeting.

We noticed the venerable Dr. Straw of Newburg present, as well as Dr. S. G. Perry, president of the New York Odontological Society, Dr. A. R. Starr, president of the First District, and Dr. Riley, president of the Central.

The 32d anniversary of the New York Odontological Society was celebrated by two large meetings January 16, at which many of the more prominent men of the profession were present and took part in the discussions of the papers. Among others were Drs. Hinkins, Harlan and Wassall of Chicago, Shepard of Boston, Barrett

of Buffalo, Brackett of Newport, Sweeney of Washington, McManus of Hartford, Smith of Baltimore, Kirk of Philadelphia, and nearly every prominent dentist of New York City and New Jersey.

In the afternoon the microphotographs were very interesting, and threw additional light upon those presented by Dr. Williams at his former appearance before this society. The doctor was unfortunately ill and unable to leave London, so his afternoon paper was read by Dr. Kirk. The evening paper on "Science or Empiricism" was well read by Dr. Harlan. The plea was for a greater interest in scientific methods and was very clear and comprehensive.

Dr. J. A. Osmun of Newark has been very ill with pneumonia, following an attack of the grip. His life was despaired of for several days, but the tide fortunately turned in his favor and he is again in active service.

The annual meeting of the C. D. A. will occur February 20. The list of invited guests is large and includes many prominent names. Gov. Voorhees will be one of the speakers. It may be noted in this connection that the Governor was counselor of the Hornets for many years and drew up our first dental laws. It seems to be a good thing for one to be connected with the Hornets. It leads to something in the way of preferment many times.

Dr. Watkins' letter in reply to Dr. Patterson did not do the New Jersey State Society any good, but seems only to hold up Dr. Watkins' end of the whole matter.

A number of dentists in the southern part of this state, notably in Tom's River, Kingston, Beverly, Woodstown, Camden and Bordertown, are seriously entertaining the idea of starting a new society for their portion of the state. We most sincerely hope they will carry it to a successful issue, for it should have been done years ago, and then come in to strengthen the state society.

Fraternally yours, HORNET.

LETTER FROM THE SOUTH.

ATLANTA, GA., January 18, 1899.

To the Editor of the Dental Digest,

1839 witnessed the birth of dentistry as a profession. From present indications 1899 is likely to mark the second important event in its history, by a material recognition from the national government. The Hull bill, which goes before the

house with the full approval of the committee on military affairs, is apt to become a law at this session of Congress. The eleventh clause of this bill provides for the appointment of one hundred dentists to the regular army, who are to hold the rank of lieutenant, with an annual salary of $1,600. There are very serious objections to the dental clause as it now stands, but this is not the time to urge them. When once the wisdom of such a law is demonstrated, as it most assuredly will be, the present discrepancies can be more easily corrected.

The social status of American dentists in Europe is the subject of a letter from Maude Andrews, from which we quote as follows:

Paris, January 4.—(Special Correspondence.)—The American temporarily sojourning in Paris finds much amusement and some profit in a study of the array of his self-expatriated countrymen who succeed in attracting a good deal of attention to themselves. There are many things about this American colony calculated to amuse, but the feature of transoceanic Americanism which makes the deepest impression upon the newcomer is the high social position to which American dentists, here and at other European capitals, seem to have attained. If the progress of events in the next two or three decades is in the same direction that it has been in the past two, it seems a safe prediction that dentistry will be recognized as the one certain open sesame to European society—the one sure pathway to rank and title.

While dentistry is everywhere at home recognized as a respectable and remunerative calling, it can hardly be said to hold any such relation to the high realms of social life. The dentist has the same chance to be a part of that life that any other individual possesses, but it is a matter of the individual; here social success seems to be the necessary accompaniment of the profession. Any young American who longs for higher things, who sighs for the glamor of courts and the smiles of the fair ladies who adorn them, has only to come here a dentist. Then will the smiles that he has brightened by his handiwork be for him. He may not only be presented at foreign courts through having repaired the dental ravages made by time upon princes and potentates, but he may even mix up a bit in statecraft and slowly but surely become a potent factor in the mysteriously fascinating diplomatic life of Europe, about which sensational novelists have thrown such a glamor.

In writing of Americans abroad the first thought is of Dr. Evans, who attained such fame and fortune here. But it is not of Dr. Evans I am thinking as I pen these references to dentistical glory. There are others. One of these others was rather conspicuous here during the days when the peace treaty was under consideration, and he is still being talked of in American circles. My first meeting with this particular American was at the home of a prominent diplomat here. He and his very pretty Viennese wife were among the guests at a reception given the American and Spanish peace commissioners. He seemed to be a very nice, ladylike, mild-mannered little

man, and I supposed his position to be that of an under secretary or something in the foreign service. He told me that he had lived for years in Madrid.

"Weren't you afraid to stay there during the war?" I asked.

"Oh, not at all," he answered, and I thought how much braver he was than he really looked. "Not at all," he went on. "You see, the people all knew us and were very kind; we had no trouble."

His wife came up just here and joined in the chat.

"Ah, yes," she said, "we felt so sorry for the poor Spaniards."

"Each day," said the man, "the poor creatures would ask me, 'Are we not to have just one victory?' And I would answer, 'No, not one.'"

The speaker's tone filled my own heart with sympathy for our late enemies, and I left that house feeling that this American was certainly a generously disposed man.

Of course he was. I found that out afterward, for he was freely talked about here among Americans as a spy in the employ of Spain. He came over here, so it was said, to look after the peace commission, and to exert upon that body the influence he was supposed to have. He and his wife made friends with the peace commissioners and their wives, and they all hobnobbed together just like diplomatic enemies do in novels.

This is not all I have to tell about the dentists. There is another dentist in Madrid also, and he and this one who was in Paris are, of course, deadly rivals. During the war both had their political followers, and each instigated riots in the hope that the other would get killed and leave the field clear.

By Jove, what laurels we Americans are winning over here; what unique spies does our nation bring forth to do her honor, and what a blessing it is that we have them abroad and keep most of our decent people at home. Fancy a little pasty-faced man pulling the teeth of Spanish ladies all day and the legs of Spanish grandees at night.

Think of the difference between a chamber of horrors with the steady part of the automatic pedal, and a banquet room where one may consort with decorated dons, drink the best wine, listen to clever quips, and thus forget each night the grinding toil of one's daily profession. I remember a long time ago having heard an illiterate woman in my native town declare that she wanted her son to be a dentist, "because," she explained, "it's such a dashin' perfeshin." The cultured people of that quiet village made merry over this remark, but that woman was right. It is a "dashin' perfeshin" over here, and no mistake. Some day American dentists will be ushered into European functions with the same empressement that we devote to an English lord in our own land.

This is by no means the first instance where the shrewd American dentist dabbled in intrigue, politics and international law. In Admiral Semmes' most charming book, "Service Afloat," in which he recounts with thrilling interest the cruise of the famous Alabama during the civil war, he pays his respects to the American dentists, many of whom he encountered acting in the dual role of practitioner

and consul general. In neutral forts, and forts not neutral, where Semmes was forced to coal, these fellows gave him a deal of trouble by reason of their official positions, and he calls them the "gad-fly" —a compliment he unwittingly pays them.

Another proof of the esteem in which dentistry is held by the laity finds expression in the recent gift of $10,000 as an endowment fund to the Dental Department of Harvard University. This is quite significant, coming as it does from a wealthy gentleman who was in nowise related to the profession, and Dr. Fillebrown has the hearty congratulations of JUNIUS JR.

NEW YORK LETTER.

To the Editor of the Digest, NEW YORK, Jan. 21, 1899.

MR. EDITOR:—The Odontological Society is to be congratulated upon the great success of its thirty-second anniversary meeting. It was a keen disappointment to learn that Dr. Williams could not be present on account of sickness, but little delay was caused.

Dr. Kirk was called upon to read the afternoon paper and he showed great ability, for it was no small task, more especially as there was a very large number of slides to be thrown upon the screen.

The quantity of Dr. Williams' work which was put upon the screen could not be surpassed, if equalled. The entire aim was to show the bacteria family, which Dr. Williams finds to be far more numerous than he or others had thought, and the magnifying of these hordes. We shall not attempt to give a description of the views, but we predict they would be a revelation to those who feel (and perhaps rightly) that they are capable of expressing an opinion on this line of work.

At the start Dr. Williams stated that it was his direct aim to endeavor to meet Prof. Truman's criticism that he had italicised, and after Prof. Truman has had an opportunity of seeing the production he will soon know what has been accomplished. There was but little attempt to criticise the exhibition and its claims, principally because there was hardly any one present who felt sufficiently versed in the subject to discuss it intelligently, yet some differences of thought did arise. Dr. Hinkins of Chicago uttered some very apropos remarks and seemed to be conversant with the subject. We never knew before that Drs. Barrett and Kirk were "purists."

The second paper by Dr. Williams was admirably read by Dr. Harlan at the evening session. It was quite long, taking nearly two hours for reading, but so interesting that the attention was sustained to the end. The paper covered a vast amount of ground and gave very exactly the words of those who stand for authority. Some people will feel queer to read what they have uttered at various times.

Dr. Williams said much of truth, for betwixt the two extremes there will be seen a golden mean. There has been much advance along the line of scientific work, and vice versa, there is much lack of it and want of appreciation for what we have. Dr. Williams charges that the profession at large has been and is dilatory in adopting a systematic order of practice, which, as he says, science brings about. Another charge was that the profession does not read the scientific works, which is proven by the publishers' statistics of sales, and we could add this is true of our journals.

The Doctor puts himself squarely in favor of patents, or a righteous justice to all parties. It would have been thought that this part of his statement would have called out much criticism, but there was none. This will probably come later.

The paper was so full of matter that it is folly to attempt anything like a review of it. For ourselves we believe that but a comparatively small percentage of the profession will become in any broad sense scientific. The commercial spirit was never so tenaciously and selfishly fastened upon the world as to-day.

It was announced at the close of the meeting that ten men had vowed to take up the suggestions of Dr. Williams regarding investigations, etc., and that they would be ready to report at the next anniversary, for they intended to use great energy and much money in pushing the matter. This will doubtless draw largely, but "go slow." The old saying, "Some men get converted at every yearly camp-meeting," is very true. There is a better way—get really converted once and it will answer for all time.

We notice the death of Mrs. Bloomfield Moore in London. Her great wealth and intimate interests with Mr. Keely, of motor fame, make her an object of more than ordinary note. Through a personal acquaintance with Mr. Keely Dr. Williams became also an acquaintance of this noted lady, and it furthered not a little his favorable introduction to many of London's noted people.

There is much sickness in New York and the dentists are not exempt. Our venerable Dr. Clowes was confined to his room for several weeks, Dr. C. D. Cook of Brooklyn has narrowly escaped death, and Dr. Woodward of New York has also been very sick for a month past. We are glad to state that all three of these gentlemen are now almost recovered.

It is the custom in England and Europe for a dentist to dispose of his practice when from any cause he wishes to retire, but in this country the custom is not so generally prevalent and some of New York's best operators have recently expressed the opinion that they did not dare take the responsibility of turning over their practice, yet if they do not their patients are apt to fare badly sometimes.

Cordially, NEW YORK.

SPOROZOA OF CARCINOMA.—Jurgens has succeeded in isolating from the mucus surrounding the neoplasm a microorganism evidently belonging to the Gregarinidæ in a number of cases of cancer of the stomach and one cancer of the bronchi, in which the air-passages were occluded, resulting in a collection of several generations of the sporozoa. It is much larger than the usual Gregarina, which he explains by the discovery of the fact that the microorganism develops by the conjugation peculiar to this species, the two bodies blending to form a single large one which invades the cell until the shell of the cell, enclosing the microorganism, is all that is left of it. In this condition it resembles Miescher's tubes and Rainey's bodies, and he queries whether they may not be developed Gregarinidæ.

ICHTHYOL IN DENTISTRY.—The *Medico Surgical Bulletin* says that Dr. H. Floris reports very favorably of ichthyol in the treatment of pyorrhea and in painful receded gums. In pyorrhea alveolaris he used the ichthyol in the undiluted state by means of cotton-wool held on a gold needle, by which he carried the medicament into the alveolar cavities. The cavities were also syringed twice or thrice a week with a warm 50 per cent solution of the drug, the patient being directed to rinse the mouth out twice a day with a solution of from 10 to 15 drops of ichthyol in half a glass of warm water in the meantime. Gentle massage to precede the rinsing. In painful receded gums, and in cases where the teeth are sensitive to change of temperature, to touch, to sweets and to the acids of certain fruits, etc., the undiluted ichthyol is painted on the sensitive part twice or thrice a week with a camel's-hair pencil, with the result that in two or three weeks permanent relief from pain is had. In this respect the preparation is greatly superior to the remedies usually employed, such as silver nitrate, for instance, since it exerts no caustic effect nor causes discoloration. The writer has also employed the remedy with remarkable results in hemorrhages following extractions, the most severe being rapidly checked by inserting a tampon of 25 per cent ichthyol cotton into the cavity and retaining it in place by the usual means.

The Dental Digest.

PUBLISHED THE TWENTY-EIGHTH DAY OF EVERY MONTH
At 2231 Prairie Avenue, Chicago,
Where All Communications Should be Addressed.

Editorial.

THE EVIL OF PATENT MONOPOLY BY TRUSTS

Every dentist in the United States is well aware of the great value of the Dental Protective Association in defending individual practitioners in the suits brought against them by corporations and persons for infringement of patents. The continuous fight against the International Tooth Crown Company for ten years past, in defeating the crown and bridge patents, and the complete check put upon several other companies and individuals who had licenses to sell, have given a forcible exhibition of the need of the Association. We now desire to impress upon the minds of all members that a far greater duty rests upon the Association than their protection when sued by patentees.

The dentists of this country do not realize that in every year of their practice they pay to the dental trust several hundred thousand dollars as royalty upon worthless patents. This ignorance is due to the fact that the royalties are added to the selling price of the various devices and as the profession knows little or nothing of the value of these articles, it does not see how much of the price paid is fair manufacturers' profit and how much is extortion.

Take for example the Donaldson broach. If a dentist were asked to pay $1.00 royalty upon each dozen of this article that he uses, he would indignantly refuse, so this feature has been concealed and the royalty added to the selling price without any mention of it being made by the Trust. By such means about $200,000 have been taken from the dental profession on a patent believed to be entirely worthless, and even if it were valid the sum of $10,000 would be an exorbitant price for it.

In the same way the dental profession has paid a royalty of, we will say at a conservative estimate, $70 upon each Wilkerson chair, and in this case also the patent would never have stood a test in court. How many men would have peacefully submitted to the

imposition of a $70 license fee for the use of the chair, yet the same result was attained by a different method.

We should also like to ask the S. S. White Company why the Morrison chair is still on the market as a patented article, since the legal life of a patent is only seventeen years, and this chair has been on the market and protected by a patent much longer than that. If there has been no underhand work the White Company will surely have no objection to enlightening the profession.

We have cited only a few instances, but they will serve to show the crying need for a check on this royalty abuse.

It is a well-known fact that in the last ten years no member of the Protective Association has paid one dollar to any corporation under threat of suit or has been put to any expense to defend suits. The Association having shown what could be done by cooperation, its founders spent much time to determine a plan whereby the evil of patent abuse could be abated, and decided that the only hope lay in the banding of the dentists themselves into a company, as an ally to the Protective Association, and to this end the Dental Protective Supply Company was organized.

When the Protective Association was first started we went to James W. White, who was at that time editor of the *Dental Cosmos* and president of the S. S. White Company, and asked the aid of his journal in furtherance of the project. He saw the possible scope of the work, as the profession did not dream of at that time and does not fully realize to this day, and would pledge his support only upon condition that the Association limit its action to abating the evil of license patents. The first circular issued, which announced the mission of the Association to be the suppression of patent abuse, disclosed too large a field of usefulness and too great a possible menace to the patent monopoly which the Trust had, and it did not take long for so astute an observer as Dr. White to see that such an organization, which contemplated banding the profession together, would sooner or later put a check upon the extortion which the Trust was practicing and would make the dentists dictators rather than slaves. So from the beginning the Protective Association was "damned with faint praise" by the Trust journals, and since the founding of the Supply Company the opposition has been strong and bitter against both organizations, and the personal attacks upon the character and motives of the editor of this journal have been espe-

cially slanderous and vindictive. We do not mind this in the least, for it is merely an indication of how greatly the Trust fears to see the profession organized in any manner for protection, which is the very reason why every dentist should give his moral and financial support to this reform movement.

THE NATIONAL DENTAL ASSOCIATION—WHAT SHALL BE ITS CHARACTER?

Up to the present time a clear conception of what this organization shall be has not been comprehended by the majority of those eligible to membership in it, and since there is so much discussion now about societies we think it well to consider whether our most representative body shall be legislative or scientific, or both.

Legislatively the American Association did much good work, both by laws regulating qualifications for practitioners, by encouraging the formation of local societies, and by aiding in the enforcement of better educational requirements. Considered from a scientific standpoint, however, it did not fulfill its true mission. The reason has never been given satisfactorily. Some men have urged that it was the fault of the plan of organization; others that the time of year was unsuitable, since busy practitioners do not care to take up such work during the hot weather; others that there was too much politics; still others that it was too commercial, as a display of dental goods is detrimental to a gathering whose prime object is scientific work.

It cannot be maintained that the old American was a great success, yet while that organization has gone out of existence, the National which has taken its place is organized on very similar lines. There are some modifications and changes which we think will be detrimental rather than beneficial, one of which is limiting the representation to state societies only. The rule of the American was, that any local society which had adopted the code might be represented; yet with so liberal a provision as this the Association seldom had over one hundred and fifty in attendance. In fact, it has often taken close counting to make the required one hundred, which we had to have in order to obtain concessions on railroad rates. The promoters of this new by-law urge that it would be better to make the membership of the Association more restrictive and we

have been entirely willing to let the experiment be tried, realizing that as formerly organized we did not get anything like the attendance we should have had.

Some years ago we obtained a fairly accurate estimate of the number of dental societies and the membership thereof in the United States and found that there were between three and four thousand dentists who belonged to one or more of the societies, many men belonging to two or more. That led us to make the proposition, which we think will still hold true, that too small a percentage of men practicing dentistry belong to the profession or take any active part in its work, scientific or otherwise, and this has a bearing on our present discussion, for too few society members take any interest in the National Association.

The active men frequently come as representatives to the national organization, engage more or less actively in the work for a year or two, and then drop out and no further benefit is derived from their membership, except that perhaps they continue to pay the annual dues. Too many of them seem to feel that they must "maintain their physical and mental standards by a proper summer vacation," so they leave the few to do the work. Why this is so has been a mystery, for when an active worker comes into the Association his efforts are recognized to the fullest extent, and all the possible honors are extended to him.

If we expect to maintain our claim of being a scientific profession, the National should have a permanent membership of from two to three thousand, and at least one thousand in attendance at its annual meetings, taking an active part in its work, and contributing by their annual dues a sufficient fund to carry on the scientific work of this body.

The claim that there is too much politics and too much emphasis given to the executive work has some ground to stand on. Efforts have been made at different times to remove all miscellaneous business from the regular meetings, and where this plan is in operation in other societies we believe it has been beneficial. There is a proposed amendment to be acted upon at the next meeting, which contemplates having all miscellaneous business presented to a council, such council being open to members of the Association for a hearing of their views on any important subjects. Decision of the council is to be final. Whether this proposed change will be adopted is a

matter only of conjecture. It was always opposed in the American, and by men who we feel sure had the best interests of the Association at heart. We favor a trial of such a regulation in the National, thereby relieving the meetings of much waste of time over matters which would be decided better usually by an honest council than by a vote of the entire Association; and this would also remove the political feature so obnoxious to many.

Then as to the time of meeting. That at present is decided by a vote of the Association and if a better time can be urged the change is easily made.

What we wish to emphasize especially at this time, however, is the literary or scientific work that this Association should represent. As now planned, and which was the plan of the American, the Association is divided into numerous sections which represent the various branches of dentistry, and while this is an admirable plan, its workings have been very poorly executed. Many times it has been impossible to organize the sections and select officers, because of lack of attendance of the individual members at the various section meetings. These sections should have permanent officers, that is, the officers should not change each year, for great and important scientific results are not accomplished in a year; the foundation should be laid for continuous work in the sections and they should gather material largely from the 135 or 140 local societies in the United States.

The American Association at two different times sent a circular letter to the membership of every society, urging that the proceedings of the meetings be sent to the proper sections to aid them in making up their reports, but in only a very few instances was anything received, and it generally consisted of who "read an admirable report on some subject," and who "performed a fine clinic," and who was "elected to offices." This is not what is wanted, and there is an excellent opportunity for some one to do what has never yet been done, namely, get a concentrated report to the National Association of all the important work done in each local society. While what has been done in one is not large, surely the great number of societies cannot fail to be productive of some considerable scientific advancement. If this proposition is not true, then society meetings, scientifically speaking, must be a failure, and no one will attempt to maintain this.

Notices.

ST. LOUIS DENTAL SOCIETY.

At the meeting of the St. Louis Dental Society, held January 4, 1899, the following officers were elected for the ensuing year: President, W. G. Cox; Vice-President, J. G. Pfaff; Corresponding Secretary, W. F. Laurenz; Treasurer, A. J. Prosser.

LORAIN COUNTY DENTAL SOCIETY.

The Lorain County Dental Society met at Elyria, O., January 4, 1899, and had a very pleasant and profitable session. The following officers were elected for the ensuing year: President, J. E. Burrell; Vice-President, B. A. Purcell; Secretary and Treasurer, C. W. Purcell.

SOUTHERN KANSAS DENTAL ASSOCIATION.

At the annual meeting of this society, held in Wichita, December 28–30, 1898, the following officers were elected for the ensuing year: President, L. D. Hodge, Arkansas City; Vice-President, J. R. Lowe, Newton; Secretary, U. S. Hougland, Wichita; Treasurer, D. B. Matthews, Wichita; Librarian, S. B. Corn, Kiowa.

CHICAGO COLLEGE ALUMNI ASSOCIATION BANQUET.

The Alumni Association of the Chicago College of Dental Surgery held a banquet January 11, 1899, which was a very enjoyable affair. Dr. J. E. Nyman was toast-master, and the various toasts were responded to by Drs. E. J. Perry, G. W. Schwartz, T. W. Brophy, R. B. Tuller, C. N. Johnson, L. C. Borland, C. B. Case and J. F. F. Waltz.

NEW YORK COLLEGE ALUMNI ASSOCIATION.

At the annual meeting of the New York College of Dentistry Alumni Association the following officers were elected: President, Arthur L. Swift: First Vice-President, Benjamin C. Nash; Second Vice-President, John I Hart; Secretary, F. T. Hannemann; Treasurer, Z. T. Sailor; Curator, F. J. McLaren; Executive Committee, R. Armstrong, J. O. Taylor, Washington Dailey.

ARKANSAS STATE DENTAL ASSOCIATION.

At the annual meeting of the Arkansas State Dental Association, held January 10, 1899, the following officers were elected for the ensuing year: President, W. H. Marshall; First Vice-President, C. C. Simms; Second Vice-President, C. E. Fitzgerald; Secretary and Treasurer, W. H. Buckley; Corresponding Secretary, J. S. Stillwell. The next meeting will be held at Little Rock, January 2, 1900.

CHICAGO DENTAL SOCIETY ANNIVERSARY.

The thirty-fifth anniversary of the Chicago Dental Society will be celebrated February 3 and 4, 1899. Clinics will be given Friday morning at the Chicago College of Dental Surgery, and papers read Friday night at the

Palmer House. On Saturday morning clinics will be given at the Northwestern University Dental School, and the sessions will be closed by a banquet at the Palmer House Saturday night. The profession, resident and abroad, are cordially invited to be present.

LATEST DENTAL PATENTS.

29,876. Design, cap for teeth, Allen W. Smith and H. McDowell, New York City.

29,966. Design, dental cabinet, Wm. G. Hullhorst, assignor to Ransom & Randolph Company, Toledo, O.

615,808. Adjustable dental rubber dam clamp, Arthur S. Cooper, McMinnville, Ore.

615,858. Disinfecting apparatus, Paul Kirschen, assignor to K. A. Lingner, Dresden, Germany.

616,302. Post and disk attachment for artificial tooth-crowns, George Evans, New York City.

616,666. Artificial tooth, Theodore S. Hainaken, Burlington, N. J.

616,815. Attaching tooth crowns, Max Tresenraiter, Munich, Germany.

617,245. Syringe and atomizer, Edward A. Franklin, Austin, Texas, assignor to Chicago Novelty Manufacturing Company, Jersey City, N. J.

617,247. Guard for dental forcep joints, John A. Chelson, Clarksville, Tenn.

617,359. Alloy for dental purposes, Carl A. R. Samsioe, Stockholm, Sweden.

617,626. Hand mirror, Charles E. Allen, assignor to R. Wallace & Sons Manufacturing Company, Wallingford, Conn.

NATIONAL DENTAL ASSOCIATION, SOUTHERN BRANCH.

The Southern Branch of the National Dental Association, by invitation of the Louisiana State Dental Society, will hold its second annual meeting in New Orleans, La., February 9, 10, 11 and 13, 1899. All members of the National Dental Association and American Medical Association are cordially invited as guests of the Southern Branch. Papers and clinics are abundant.

Circulars are issued giving railroad and hotel rates. Hotel rates are very liberal, lower than we usually secure for our meetings. Railroad rate is round trip for one fare, by buying the Mardi Gras ticket. Mardi Gras is the day following adjournment. Come and participate in the meeting, and enjoy the grand carnival sights.

Publishers are requested to send for exhibition any publications but a few years old. Send books to Dr. L. D. Archinard, 907 Dauphine street, chairman of Exhibit Committee, who will carefully return books not sold for the publishers. Mark price in volume.

Following is a list of hotels and boarding-houses the visitors may find convenient and desirable while attending the meeting. It will be necessary to notify the proprietor at least ten days in advance in order to secure good rooms. HOTELS.—St. Charles Hotel, American plan, $4.00 per day and up, according to location of room. European plan, $2.50 and upwards. Hotel Royal (French quarter), American or European plan, $2.50 to $4.00 per day, according to location of room. Cosmopolitan Hotel, European plan, from

$1.50 upwards. Antoines Hotel (French), 713 St Louis street, $2.00 and $3.00. Hotel Denechaud, American or European plan, from $2.00 to $3.50 per day. Metropole Hotel, American plan, $2.00 per day. ROOMS.—Fabacher's Hotel, $0.50 to $1.00 per day. Penn's Hotel, $0.50 to $1.00 per day. Commercial Hotel, $1.00 to $2.00 per day. Metropole Hotel, $0.50 to $1.00 per day. Rooms (French), 234, 237, 239 Bourbon street, from $1.00 to $3.00. PRIVATE FAMILIES.—Mrs. Hawze, 1350 Magazine street. Rooms with board $1.00 to $2.00 per day; special rates by the week or month. Mrs. Joseph B. Davis, 1710 Prytania street. Mrs. C. R. Van Wick, 1819 Annunciation street. Miss Lulu Bailey, 846 Camp street. Any information concerning the above will be cheerfully furnished by the chairman of the Hotels and Quarters Committee, Dr. J. Rollo Knapp, 620 Canal street, New Orleans, La.

News Summary.

DR. JOHN ZEIGLER, formerly a dentist at Pennsburg, Pa., died near Zionsville December 23, 1898.

DR. E. THOMAS, a dentist of Ellendale, N. D., died from an attack of pneumonia January 5, 1899.

Dr. DAVID W. GILL, a prominent dentist of West Liberty, Ohio, died from heart disease January 4, 1899.

DR. CHESTER D. LOWRY, a dentist of Brookville, Pa., committed suicide January 13, 1899, while insane.

DR. CHAS. M. CARMON, 30 years old, a dentist of Salt Lake City, died January 11, 1899, of heart disease.

PRACTISING DENTISTRY WITHOUT A LICENSE recently caused the arrest of two dentists in San Francisco.

OREGON COLLEGE OF DENTISTRY.—An institution with this title has recently been incorporated at Portland, Ore.

OSTEOPATHY IS STRIVING TO GAIN NOTORIETY.—The leader of the cult, Dr. "Bill" Smith, has sued *The Medical Age*, of Detroit, Mich., for $25,000 damages.

DR. WM. M. BEARDSLEE, aged 51 years, a prominent dentist of Lebanon, Pa., died December 31, 1898, from heart trouble, after an illness of only a few days.

PAN-AMERICAN MEDICAL CONGRESS.—The third meeting of this organization has been postponed, and will convene at Caracas, Venezuela, in December, 1900.

DR. FRANK D. WILSON, a dentist of Omaha, died in Findlay, Texas, January 1, 1899. He was en route to Mexico for his health, but died of hemorrhage on the way.

FINED FOR NON-REGISTRATION.—Two dentists of Iowa were last week fined $25 and costs each for neglecting to register their certificates and to pay the state license.

DR. WM. HENRY LAWRENCE, aged 44, a dentist of Suffield, Conn., died January 8, 1899, of cerebro-meningitis. He was a prominent member of several secret fraternities.

CALIFORNIA STATE BOARD OF DENTAL EXAMINERS has started a movement against the unlicensed dentists of San Francisco, and the first step was taken by arresting one of the delinquents.

DEATH FROM CHLOROFORM.—A woman died in a dentist's chair in Milwaukee December 29, 1898. Chloroform had been administered, but no attempt had been made to extract the tooth, as she expired very soon after becoming unconscious.

"INTERFERENCE" OR "INTERVENTION."—As the term "surgical interference" is a misnomer, since *interference* suggests intermeddling or something offensive, this journal will hereafter use the term surgical *intervention* when speaking of operative mediation.

TO PUBLISH DEBTORS.—A well-known dentist in Ohio has announced in the newspapers of his town that he will publish the names of all persons, regardless of social or financial prominence, who are indebted to him if accounts are not settled at once.

HAWAII OVERCROWDED.—A writer in *Collier's Weekly* states that Hawaii offers no opening for either skilled or unskilled labor, as the market for all kinds of workmanship is unusually overcrowded and that there are as many physicians and dentists as in communities of similar size in the United States.

TAX ON DENTISTS.—The Ways and Means Committee of the Missouri House of Representatives will meet to consider a bill to compel the dentists of St. Louis to pay a tax of $10 per year to the city. The St. Louis Dental Society has appointed a committee, consisting of Drs. Kennerly, Bartlett and McKellops, to fight the measure.

MICHIGAN PROSECUTION.—As we stated last month, the Michigan State Association has taken action against some non-registered dentists. At the trial which occurred recently one of them plead guilty and paid a fine of $25; another appealed his case to the circuit court, and the action against the others will rest pending the circuit court's decision.

ODONTOGRAPHIC SOCIETY BANQUET.—The Chicago Odontographic Society gave its eleventh annual banquet at the Sherman House, January 16, 1899. Instead of the usual toasts and speeches the society made an innovation by having a prestidigitateur and a monologue artist. The entertainment and menu were excellent and a most enjoyable evening was had.

GIDEON SIBLEY VS. THE MECHANICAL DENTISTS.—Gideon Sibley's Chicago branch advertises to do mechanical dentistry. We are undecided whether this is done to crowd out the mechanical dentists, or because of hard times. If the latter be the reason, we hope business will so pick up that this firm will not be forced to the length of opening a "painless dental parlor."

MISSOURI PROSECUTION.—The Missouri State Board of Dental Examiners January 11, 1899, arrested two men who were practicing dentistry without a license. The two cases are somewhat different, as one of the defendants is

working under a preceptor, while the other is conducting an independent practice. It is expected that both suits will be fought to the bitter end.

NEW DENTAL JOURNAL.—We learn that a new dental journal is shortly to make its appearance. It will be a sixteen page monthly, illustrated, 50 cents per year, and will bear the title of "The American Dentist at Home and Abroad." The editor will be Dr. Charles R. Hambly, the publishers The American Dental Publishing Company, and the publication office at Bradford, Pa.

MORE LEGISLATION.—The British Medical Association and the General Medical Council are preparing to still further tie the hands of medical men. A few months ago the unqualified assistant was tabooed. Now, medical men who cover unregistered dentists are to be punished wherever possible. The dental acts forbid unqualified and unregistered dentists to administer anesthetics, but the acts have been evaded by procuring a qualified doctor to undertake this forbidden work, while the so-called dentists perform the rest of the work. Medical men are now to be prohibited from assisting this device, and those who disobey will be liable to be relieved themselves of the right to practice.

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The particles of food

which find lodgement in the interstices of the teeth and in the tooth structure, form a most suitable pabulum and very secure habitation for bacteria; consequently, the Dental Profession has subjected to very careful test the various antiseptic and disinfectant agents known to science, with the object of ascertaining their exact inhibitory or germicidal value, and their general adaptability to the practice of dentistry. In the researches by Professor Miller, of the Royal University of Berlin, to determine the most available antiseptic for the prophylactic treatment of the oral cavity, and for the preservation of the teeth, the action of Listerine was particularly noteworthy for the rapidity with which it acted upon the fungi of the mouth, and it was clearly demonstrated to be one of the most powerful, and the safest of the available antiseptic solutions.

Listerine has proven a very useful agent in Dental Practice:

To treat antiseptically all diseases of the oral cavity.
To prescribe as a detergent prophylactic mouth wash.
To cleanse and deodorize before operating.
To wash and purify the mouth after extracting.

Dealers in drugs, everywhere, will promptly fill your prescriptions for Listerine, but in consequence of the prevailing evil—substitution—we request that an original package be ordered, thus assuring to the patient genuine Listerine.

Upon demand, we shall send you "Listerine in Dental Practice," a compilation of interesting reports descriptive of the antiseptic utility and general adaptability of Listerine to the dental art.

Lambert Pharmacal Co., Sole makers of Listerine, St. Louis.

DR. J. LEON WILLIAMS,

who stands pre-eminent among dental authorities, declares that almost all softening of the enamel and structural decay of the teeth are due to the action of acids excreted by bacteria in the mouth. He says: "My own opinion, based on an experience extending over five years, is that we can place in the hands of our patients the means of preventing at least two-thirds of the dental decay now prevalent."

Dr. A. C. Hart likewise declares that by preventing the growth of bacteria in the mouth, he can preserve the teeth of his patients indefinitely.

The late investigations of the special committee appointed by the New Jersey State Dental Society to search into the subject, demonstrated that the safest, most effective and available antiseptic and disinfectant adapted to dental and oral prophylaxis, was a new and powerful germicide, which scientifically combines the cleansing, healing and preserving properties of Eucalyptol, Tymol, Formaldehyde, Boric Acid, Menthol, Cinnimic Aldehyde, Benzoin, Myrrh and Wintergreen.

"Dentacura," the name given to this new agent, derives its remarkable germicidal power from its chemical property of **UNITING with the bacteria** and combining with the nitrogenous and albuminoid matter found in the mouth, and **TRANSFORMING both the bacteria and the products of decay into new and true chemical compounds, which are not only sterile and odorless, but often are actually antiseptic themselves.** It thus annihilates the very principles of fermentation and decay and must from necessity conserve to the preservation of the teeth.

Before the investigating committee of the New Jersey State Dental Society placed Dentacura at the head of all Dental and Oral Prophylactics, Dr. S. C. G. Watkins, the Chairman of the Committee, states in a letter published in the January *Items of Interest* that "After a most conscientious and unbiased examination of the leading antiseptics and dentifrices, and an especially close observation of the action of all such, **in cases of inflamed and spongy gums, pyorrhoea alveolaris, and excessive accumalations of salivary calculus,"** he prepared the report which "conclusively demonstrated" that **Dentacura "possesses all the requirements of an ideal prophylactic."** Dr. Watkins further affirms that "the statements presented by the Special Committee on Prophylaxis to the New Jersey State Dental Society are indisputable facts, and any honest and thorough investigation will justify all the findings presented in that report."

In Dentacura, Dr. Williams' statement is more than verified. "Every dental practitioner can place in the hands of their patients the means of preventing at least two-thirds of the dental decay now prevalent," and can maintain the mouth in such a perfect state of antisepsis as to prevent most if not all of the dental and oral diseases characteristic of bacteria infection.

Dentacura Co., Newark, N. J.. invite correspondence from the profession and shall be pleased to send literature and samples of Dentacura.

"It Is More."

A prominent dentist of Chicago said this fall to the writer:

"Your Sozodont surprises me. It is more than a mouth-wash, it is a dentifrice; and furthermore, in certain cases a remedial agent also."

Have you thought of Sozodont as a mere dentifrice, possessing no antiseptic and healing properties? If so, permit us to offer proof to the contrary. At the same time, we will, at your command, send you samples of both the liquid Sozodont and Sozodont Powder. Address (mentioning January "Digest"),

Hall & Ruckel,

215 Washington St.,
New York,
Dec. 1, 1898.

Sole Proprietors of Sozodont,
New York and London.

Established 1848

AN ADJUSTABLE SLIP-JOINT

would be a novelty, as there is not one now made which provides for the taking up of wear.

If you contemplate buying a slip-joint it will pay you to wait a short time, for we shall very soon show you one which will be

ADJUSTABLE, UNIVERSAL,

CHEAPER
THAN ANY NOW
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THE MARKET.

DENTAL PROTECTIVE SUPPLY CO.

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Are now granting the following munificent discounts for spot cash:

3 Per Cent. on Bills from $ 5.00 to $ 25.00
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10 Per Cent. on Bills Over 100.00.

The Dental Protective Supply Company since its organization has given **10 Per Cent Discount** for cash on all goods of its manufacture to members of The Dental Protective Association, no matter how small the purchase.

We have done this to benefit the members of the Association, and to show the non-members, that by joining and taking advantage of the discount they could, in a short time, save their entrance fee.

Can this move on the part of the Trust be an attempt to check the growth of The Protective Association. When the combination becomes philanthropic we are naturally suspicious.

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The best results in mixing alloy can be obtained only when the correct proportions are secured. ("Fellowship" alloy requires seven grains of mercury to five of alloy.) We therefore offer this little scale, which can also be used for weighing precious metals, drugs, etc.

The arrangement of the pan makes the scale absolutely accurate, and the capacity is ½ to 24 grains. It is handsomely nickel-plated and very simple in construction.

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we have succeeded in overcoming this difficulty, and we will guarantee it to require less repair and to outwear any angular attachment now on the market.

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